13559

PRELIMINARY ASSESSMENT (PA) REPORT
FOR HALTER MARINE, INC.
MOSS POINT, JACKSON COUNTY, MISSISSIPPI
MSD008208696

NFRAP APPROVED
BJ 6/8/96

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF POLLUTION CONTROL
HAZARDOUS WASTE DIVISION
P. O. BOX 10385
JACKSON, MISSISSIPPI 39289-0385

FINOS
5801 ELDERFERRY RD.
MOSS POINT, MS 39563

March 1, 1996

PREPARED BY:

John M. Andrews
JOHN M. ANDREWS

APPROVED BY:

Phillip Weathersby
PHILLIP WEATHERSBY

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Introduction

The Mississippi Department of Environmental Quality, Office of Pollution Control (MS OPC), has conducted a Preliminary Assessment (PA) of the Halter Marine, Inc. facility located in Moss Point, Jackson County, Mississippi. The PA was performed under the authority of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). Location of the facility is Latitude 30° 25' 15" North, Longitude 88° 31' 40" West; SE 1/4, SW 1/4, NW 1/4, Section 19, Township 7 S, Range 5 W, Jackson County, Mississippi (References 3). The elevation of the site is about 6 feet above mean sea level.

Background

Halter Marine is located in the alluvial plain of the Escatawpa River. It is located off Elderferry Road in the Moss Point corporation limits. The property consists of several buildings situated on approximately 39 acres. The property is bordered by a marsh area to the west, an open field to the north and east, and Bounds Lake to the south.

Halter Marine builds and repairs barges and ships. The work is performed outdoor and consists of; cutting, welding, assembly of mechanical/electrical parts, painting, and testing (Reference 4).

Regulatory History and Waste Characteristics

Halter Marine is listed as a large quantity generator with the Hazardous Waste Division of the MS OPC. Halter Marine filed its first EPA Form 8700-12 (Notification of Hazardous Waste Activity) in February 1990 (Reference 4).

The principal hazardous waste produced at the facility are paint related wastes - ie. paint and spent solvents (Reference 4). The wastes, as generated, are managed in 5-gallon buckets and/or 55-gallon containers depending on the volume of fabrication and finishing activity (Reference 4). Once filled, the 5-gallon buckets are emptied into 55-gallon containers for storage, shipment and disposal. For purposes of this report, the contaminants of concern are carbon tetrachloride, pyridine, toluene, and xylene. There have been no sampling investigations at this facility to document any contamination. The waste quantity was conservatively calculated using the total area of the facility.

Groundwater Pathway

Mississippi is located in the Gulf Coastal Plain of North America. The state is divided into twelve physiographic provinces. Two of the twelve provinces are represented in Jackson County. These are the Piney Woods province, in the northern three-quarters of the county, and the Coastal Meadows province, in the southern one-quarter of the county. The Halter Marine facility lies within the Coastal Meadows province.

The facility is underlain by approximately five feet of a very fine sandy loam, a soil consisting of silt, clay, and about 50 percent sand. Underlying the sandy loam is approximately 90 feet of sand, gravel, and clay of terrace/alluvial deposits and the Citronelle formation. Below the Citronelle, in descending order, are the Graham Ferry, Pascagoula, and the Hattiesburg formations. These formations consist of interbedded layers of sand, shale, and silt. In the Escatawpa/Moss Point area, the 20 to 40 foot thick clay bed which usually separates the Graham Ferry and the overlying coarse sand and gravel of the Citronelle is absent in places, so the Graham Ferry and the Citronelle formations are considered hydraulically connected. The Graham Ferry formation is Pliocene age, whereas the Pascagoula and the Hattiesburg are Miocene age. The relation of the Graham Ferry and the underlying Pascagoula Formation is obscure, and a definite contact between the formations in the outcrop area has not been observed. Hence, the Graham Ferry is included with the Miocene age formations for purposes of this report. The Hattiesburg was not evaluated in this report because of its extreme depth. The base of the freshwater in the Miocene aquifer system in the Escatawpa/Moss Point area is approximately 1300 feet below sea level. The dip of the units is to the south.

According to the water well printout from the U.S. Geological Survey, there are 285 private/domestic drinking wells and 13 municipal wells within a four-mile radius from the site. These wells serve a total estimated population of 32,067 people (based on the 1990 census). Almost half of the private wells and the majority of the municipal wells are screened in the Graham Ferry aquifer. However, as stated earlier, wells screened in the Graham Ferry are considered as Miocene for purposes of this report. The nearest private well is Q013 located one quarter mile to the northeast of the facility. It is screened in the Miocene at a depth of 970 feet. The nearest municipal well (P054) is located 1.175 miles south-southwest of the facility and is screened in the Pascagoula at a depth of 768 feet. The shallowest well is P017 located 2½ miles northwest of the facility; it is screened in the alluvium at 25 feet.

The number of wells within a four-mile radius from the site are listed below as to distance and aquifer:

Distance(miles)	Number of Private Wells in Aquifer		Number of Public Wells in Aquifer		TOTAL
	ALLUVIUM	MIOCENE	ALLUVIUM	MIOCENE	
0 - ¼					0
¼ - ½		1			1
½ - 1	3	8			11
1 - 2	12	34		8	54
2 - 3	19	58		2	79
3 - 4	31	119		3	153
TOTAL	65	220	0	13	**298**

Total Private	285
Total Public	13

Note: The Alluvium column includes wells screened in the Terrace deposits and the Citronelle formation as well as those screened in the Alluvium; the Miocene includes wells screened in the Graham Ferry, Pascagoula, and Hattiesburg formations.

(References 3, 4, 5, 7, 9, 12, 18, 19, and 20)

Climate and Soils

Annual precipitation for the Moss Point, Jackson County area is 64 inches (Reference 8). Mean annual lake evaporation is about 47 inches; thus, the resultant net precipitation is 17.0 inches (Reference 15). The two-year, 24-hour rainfall is around 6.5 inches (Reference 10).

Based on the soil survey map of Jackson County, the predominant soils at the facility are the soils of the Lynchburg Series, which is a poorly drained soil group of the coastal flatwoods. These soils are very fine sandy loam soils with slopes of 0 - 2 and 2 - 5 percent. (Reference 12).

Surface Water Pathway

Surface water flows off site directly into Bounds Lake, which is on the southern property line, or into the marsh areas along the western and eastern property lines and then into Bounds Lake. Bounds Lake is actually a part of the Escatawpa River. Flow travels westward in the Escatawpa River system for 2.1 miles before joining the Pascagoula River. From here the Pascagoula River meanders towards the west and south for 6.9 miles before emptying into the Mississippi Sound where the 15-mile pathway is completed. Approximately 9 miles of wetlands are present in the 15-mile surface water pathway.
(References 3 and 4)

The facility is located in the 100-year flood zone (Reference 11). There are no drinking water intakes located along the 15-mile surface water pathway (Reference 17). Endangered or threatened aquatic species known to inhabit the waters of the Escatawpa and Pascagoula rivers and the Gulf of Mexico coastal waters are: Sperm, Sei, Humpback, Finback, and Right Whales; Kemp's, Green, Hawkbill, and Loggerhead turtles; and the American alligator (References 13 and 14).

Soil Pathway

The facility is situated on the north shore of Bounds Lake which is off of the Escatawpa River in Moss Point. According to the 1990 census, Moss Point has a population of 17,837. The majority of the area surrounding the site is marshland with a residential area to the north. The facility has approximately 300 employees. The table below shows the estimated residential population within one mile of the facility:

DISTANCE (mile)	NUMBER OF RESIDENTS*
0 - ¼	
¼ - ½	68**
½ - 1	1,117***
TOTAL	1,185

* 2.82 persons per household for Jackson County.
** 24 houses × 2.82.
*** Because this range includes the shaded urbanized area (where house symbols are not shown) on the topo maps, the estimated number of residents was 5% of the population of Moss Point and 80 houses outside of the shaded area. (5% × 17,837) + (80 × 2.82) = 1,117

The nearest resident is approximately 1,100 feet northeast of the facility. A fence restricts access to the site. There is no school or day care center within 200 feet of the facility (Reference 3,4). Endangered or threatened terrestrial species listed for the Jackson County area are: the Brown pelican, Piping plover, and the Mississippi sandhill crane. Endangered or threatened terrestrial species listed for the entire state include the Florida panther, the bald eagle, the peregrine falcon, Bachman's warbler, and the red-cockaded woodpecker.

(References 3, 7, 13, and 14)

Conclusion

The MS OPC concludes that no further remedial action is recommended under the CERCLA program.

REFERENCES

1. Environmental Protection Agency, 40 CFR Part 300, Hazard Ranking System; Final Rule, Federal Register, Vol. 55, Friday, December 14, 1990.

2. Superfund Chemical Data Matrix (SCDM), U. S. EPA.

3. Topographic Maps of the Halter Marine, Inc. area, Moss Point, Mississippi.

Grand Bay SW, MS Quadrangle	- 7.5 Minute Series
Kreole, MS Quadrangle	- 7.5 Minute Series
Pascagoula North, MS Quadrangle	- 7.5 Minute Series
Pascagoula South, MS Quadrangle	- 7.5 Minute Series

4. Information from the MS OPC Hazardous Waste Division files on Halter Marine, Inc., Moss Point, Jackson County, Mississippi.

5. Printout from U. S. Geological Survey Data Base of Wells within the Halter Marine, Inc., Moss Point, Mississippi study area.

6. Information on Public Water Supply Wells in Jackson County, Mississippi, from the Water Supply Division, Mississippi State Department of Health, Division of Water Supply.

7. Average Population per Household, Jackson County, Mississippi, April 1990 Census.

8. Mean Annual Precipitation Map, 1951-1980, Tishomingo County Geology and Mineral Resources, by Robert K. Merrill, Mississippi Bureau of Geology, p. 13.

9. Sources for Water Supplies in Mississippi; by B. E. Wasson, U. S. Geological Survey, Revised 1986, pp. 7 and 30.

10. Two-Year, 24-Hour Rainfall Map, "Rainfall Frequency Atlas of the United States," by David M. Hershfield, U. S. Department of Commerce, Technical Paper No. 40, 1961.

11. Flood Insurance Rate Map, September 4, 1987, City of Moss Point, Jackson County, Mississippi, Community-Panel No. 285258 0003 D, Panel 3 of 3.

12. United States Department of Agriculture, Soil Survey, Jackson County, Mississippi, 1964, pp. 43, Sheet Number 46, and the Soil Legend.

13. U. S. Fish and Wildlife Service:

    1) Vicksburg Office, Species List by County.
    2) Jackson Office, Topographic Maps Indicating Sensitive Environments.
    3) Region IV - Atlanta, "Endangered and Threatened Species."

14. "Endangered Species of Mississippi, 1992," Mississippi Department of Wildlife, Fisheries and Parks, Museum of Natural Science.

15. Average Annual Lake Evaporation Map, "Evaporation Maps for the United States," by M. A. Kohler, T. J. Nordenson, and D. R. Baker, U. S. Department of Commerce, Weather Bureau, Technical Paper No. 37, Plate 2.

16. Information from the MS OPC Industrial Wastewater Control Branch files, Halter Marine, Inc., Moss Point, Mississippi facility.

17. Information on groundwater and surface water use from the Mississippi Office of Land and Water Resources, Jackson, Mississippi.

18. <u>Geology and Ground-Water Resources of the Coastal Area in Mississippi</u>, 1944, by Glen Francis Brown, et al., Mississippi State Geological Survey, Bulletin 60, pp. 17, 19, 29, 30, 38, 45-61, and Plate 1.

19. <u>Water Resources in the Pascagoula Area</u>, 1965, by Edward J. Harvey, Harold G. Golden, and H.G. Jeffrey, U.S. Geological Survey Water - Supply Paper 1763, pp. 86-107.

20. <u>Characterization of Aquifers Designated as Potential Drinking Water Sources in Mississippi</u>, 1982, by L. A. Gandl, Water Resources Division, U. S. Geological Survey, pp. 15-20.

federal register

Friday
December 14, 1990

Part II

Environmental Protection Agency

40 CFR Part 300
Hazard Ranking System; Final Rule

REFERENCE 1

SUPERFUND CHEMICAL DATA MATRIX

9 March 1993

REFERENCE 2

OVERSIZED

DOCUMENT

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

March 23, 1992

Halter Marine Inc.
P.O. Box 8767
Moss Point, MS 39562-8767

Attn: Mr. Emerald Smith

Re: Large Quantity Generator Number

This letter acknowledges receipt of your subsequent notification form as a Mississippi Large Quantity Generator.

The location identification number, MSD008208696, is assigned to:

5801 Elderferry Road

The above location with its assigned number is now designated as a Large Quantity Generator in our files. It is suggested that you secure and become familiar with Hazardous Waste Regulations, especially the chapters dealing with Large Quantity Generators. Your identification number must be used when manifesting any hazardous waste.

It is important that this office be notified in writing within seven (7) days of ANY changes of the information submitted on your notification form.

Should you have any questions please contact this office at (601) 961-5171.

Very truly yours,

Michael J. Weaver
Hazardous Waste Division

Enclosure

OFFICE OF POLLUTION CONTROL, P. O. BOX 10385, JACKSON, MS 39289-0385, (601) 961-5171

Reference 4

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0028. Expires 10-31-91. GSA No. 0246-EPA-OT

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law (*Section 3010 of the Resource Conservation and Recovery Act*).

EPA

Notification of Regulated Waste Activity

United States Environmental Protection Agency

Date Received (For Official Use Only)

RCris

DEQ-OPC

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

[ ] A. First Notification [X] B. Subsequent Notification (complete item C)

C. Installation's EPA ID Number: M S D 0 0 8 2 0 8 6 9 6

II. Name of Installation (Include company and specific site name)

HALTER MARINE INC.

III. Location of Installation (Physical address not P.O. Box or Route Number)

Street: 5801 ELDERFERRY ROAD

Street (continued):

City or Town	State	ZIP Code
MOSS POINT	MS	39562-8767

County Code	County Name
059	JACKSON

IV. Installation Mailing Address (See Instructions)

Street or P.O. Box: P.O. BOX 8767

City or Town	State	ZIP Code
MOSS POINT	MS	39562-8767

V. Installation Contact (Person to be contacted regarding waste activities at site)

Name (last)	(first)
SMITH	EMERALD

Job Title	Phone Number (area code and number)
SAFETY MANAGER	601-475-1211

VI. Installation Contact Address (See Instructions)

A. Contact Address Location	Mailing	B. Street or P.O. Box
X	X	

City or Town	State	ZIP Code
		-

VII. Ownership (See Instructions)

A. Name of Installation's Legal Owner: TRINITY INDUSTRIES INC.

Street, P.O. Box, or Route Number: 2525 STEMMONS FRWY

City or Town	State	ZIP Code
DALLS	TX	75356-8887

Phone Number (area code and number)	B. Land Type	C. Owner Type	D. Change of Owner Indicator	(Date Changed) Month	Day	Year
214-631-4420			Yes [ ] No [ ]			

Please print or type ... 12 characters per inch in the unshaded areas only

Form Approved. OMB No. 2050-0028. Expires 10-31-91
GSA No 0246-EPA-OT

ID – For Official Use Only

VIII. Type of Regulated Waste Activity *(Mark 'X' in the appropriate boxes. Refer to instructions.)*

A. Hazardous Waste Activity

1. Generator (See Instructions)
   - [X] a. Greater than 1000kg/mo (2,200 lbs.)
   - [ ] b. 100 to 1000 kg/mo (220 - 2,200 lbs.)
   - [ ] c. Less than 100 kg/mo (220 lbs.)
2. Transporter (Indicate Mode in boxes 1-5 below)
   - [ ] a. For own waste only
   - [ ] b. For commercial purposes

   Mode of Transportation
   - [ ] 1. Air
   - [ ] 2. Rail
   - [ ] 3. Highway
   - [ ] 4. Water
   - [ ] 5. Other - specify
3. [ ] Treater, Storer, Disposer (at installation) Note: A permit is required for this activity; see instructions.
4. Hazardous Waste Fuel
   - [ ] a. Generator Marketing to Burner
   - [ ] b. Other Marketers
   - [ ] c. Burner - indicate device(s) - Type of Combustion Device
     - [ ] 1. Utility Boiler
     - [ ] 2. Industrial Boiler
     - [ ] 3. Industrial Furnace
5. [ ] Underground Injection Control

B. Used Oil Fuel Activities

1. Off-Specification Used Oil Fuel
   - [ ] a. Generator Marketing to Burner
   - [ ] b. Other Markerer
   - [ ] c. Burner - indicate device(s) - Type of Combustion Device
     - [ ] 1. Utility Boiler
     - [ ] 2. Industrial Boiler
     - [ ] 3. Industrial Furnace
2. [ ] Specification Used Oil Fuel Marketer (or On-site Burner) Who First Claims the Oil Meets the Specification

IX. Description of Regulated Wastes *(Use additional sheets if necessary)*

A. Characteristics of Nonlisted Hazardous Wastes. Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. *(See 40 CFR Parts 261.20 - 261.24)*

1. Ignitable *(D001)*	2. Corrosive *(D002)*	3. Reactive *(D003)*	4. EP Toxic *(D000)*	(List specific EPA hazardous waste number(s) for the EP Toxic contaminant(s))
X				

B. Listed Hazardous Wastes. (See 40 CFR 261.31 - 33. See instructions if you need to list more than 12 waste codes.)

1	2	3	4	5	6
F 0 0 3	F 0 0 5				
7	**8**	**9**	**10**	**11**	**12**

C. Other Wastes. (State or other wastes requiring an I.D. number. See instructions.)

1	2	3	4	5	6

X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Signature	Name and Official Title *(type or print)*	Date Signed
Emerald Smith	Emerald Smith, Safety Manager	3-16-92

XI. Comments

Note. Mail completed form to the appropriate EPA Regional or State Office. (See Section III of the booklet for addresses.)

Memo

To: David Lee
From: Mohammad Yassin
Date: April 14, 1995
Subject: Access Denial to Halter Marine

On April 13, 1995, I drove to the referenced facility to conduct a RCRA hazardous waste compliance inspection. I arrived at Halter Marine, located in Moss Point, Jackson county, Mississippi at approximately 1:10 P.M. Upon arrival I asked the security guard for Mr. Emerald Smith, safety manager and a contact person for environmental compliance. When Mr. Smith came, he informed me that they have to make their corporate office aware of my visit, apparently he did that, then I proceeded to inspect the facility with Mr. Smith, Mr. Eric Richardson, and Mr. Nedles, paint foreman. Mr. Richardson excused himself because he wanted to make a phone call. A few minutes later he came back while I was beginning to inspect their 90-day storage area. Mr. Richardson told me that the inspection has to stop because Mr. Pat Killeen said so, and Mr. Killeen asked to schedule the inspection for later, about two to three hours later. I told Mr. Richardson if I am not allowed to proceed with the inspection, I will have to consider this as denial of access which in itself is a violation of the regulation. Mr. Richardson called Mr. Killeen again to see if we can proceed with the inspection, Mr. Killeen apparently said that the inspection has to be reschedule to give him enough time to come from Louisiana. I refused to reschedule the inspection for the following reasons:

1) On July 15, 1994, I inspected Moss Point Marine Inc. (owned by Trinity Marine Group that is the owner of the referenced facility). I arrived at the facility at around 9:00 A.M. At that time I was informed that Mr. Killeen would like some time to drive from Louisiana I agreed to it. In the morning I noticed only one 55-gallon drum in the storage area but when I came back at around 1:00 P.M. there were fifteen 55-gallon drums in the storage area (see report for more details).

2) If there are any compliance problems specially with containers management, scheduling the inspection for later would have given the facility plenty of time to correct any problems they might have.

I left the facility at 2:30 P.M. and called you immediately after this to inform you of the situation. We need to ensure that such problems will not arise in the future and also make our legal section aware of the problem.

TRINITY MARINE GROUP

HALTER MARINE, INC. *A TRINITY INDUSTRIES COMPANY*

P.O. BOX 8767 / MOSS POINT, MS 39562-8767 / 5801 ELDERFERRY ROAD / MOSS POINT, MS 39563
601-475-1211 / FAX: 601-474-1947

RECEIVED
AUG 2 5 1995
Dept. of Environmental Quality
Office of Pollution Control

Mohammad Yassin
Office of Pollution Control
P. O. Box 10385
Jackson, Ms 39289-0385

Dear Mr. Yassin:

In response to your letter of July 31, 1995, regarding RCRA Inspection your letter was received 20 days after the postmark, because of improper address.

I explained to you at the time of inspection that the contingency was not sent by certified mail because of the weight and size of each package. The plan was sent to each each of the agencies named . Local copies were hand delivered by Halter Courier. State and County copies were sent by Parcel Post. Any revisions to this plan will be by certified mail, to insure a record of reciept.

In reference to 262.34(a) (3) & 262.34(a) (2) Halter Marine has taken the necessary steps to address both of these items. This action was taken immediately following inspection.

Please see enclosed list,of emergency equipment this list part of contingency plan will be kept current.

If I can be of any further assistance please feel free to contact me..

Yours Truly

Emerald Smith
Safety Manager

HALTER MARINE INC.

Mohammad Yassin
Office of Pollution Control
P. O. Box 10385
Jackson, Ms 39289-0385

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Please se inclosed list,of emergency equipment this list part of contingency plan will be kept current.

If I can be of any further assistance please feel free to contact me..

Yours Truly

Emerald Smith
Safety Manager

Raw materials are used daily and wastes are generated daily thereby occasioning numerous inspections of the staging and storage areas by coatings personnel. They have been instructed to contain spilled paint immediately and to clean the area thoroughly. Furthermore, coatings personnel have been instructed to be aware of spills and releases and to report same to their Supervisor as soon as possible.

Hazardous materials and wastes are staged and stored in areas that if spilled or released they cannot enter a drain of any sort.

Refer to Section 11.600 of this Manual for more details.

4.505 Facility Response Equipment

The equipment listed herein is available at the facility upon occurrence of an emergency situation. It may be utilized as the incident in question warrants.

AIR COMPRESSORS	STRETCHERS
CHAIN HOISTS	POWER CUTTERS
EXPLOSION METER	FANS
FIRE EXTINGUSIHERS	FIRST AID SUPPLIES
FORKLIFTS	HEATERS, PORTABLE
LIGHTERS, PORTABLE	SHOVELS
RADIOS/PORTABLE TWO-WAY	TOOL BOXES
WELDING EQUIPMENT	CUTTING EQUIPMENT
PLASTIC COVERING	PROTECTIVE CLOTHING
RESPIRATORS	BOOTS
GLOVES (CLOTH/RUBBER)	ABSORBALL
FRONT END LOADER	~~200~~ FEET BOOM
correction	600

4.506 Spill Response Contractor and Resources

Due to the type business conducted at this facility and the volume and nature of stored petroleum oils and products and the volume of hazardous and non-hazardous materials and wastes at the facility, company personnel is trained to manage the most probable emergencies that could occur.

AIR COMPRESSORS - YARD WIDE
CHAIN HOIST - THROUGHOUT YARD
EXPLOSION METERS - LOCATED IN SAFETY 7 FIRST AID
FIRE EXTINGUISHERS - YARD WIDE
FORKLIFTS - YARD & BOTH WAREHOUSES
WELDING EQUIPMENT - YARD WIDE
PLASTIC COVERING - BOTH WAREHOUSES
RESPIRATORS - SAFETY, FIRST AID, WELDING, & PAINT OFFICES.
GLOVES - SAFETY STORE - FIRST AID
FRONT END LOADER - MAINT DEPOT
STRETCHERS - ALL CRANES , FIRST AID
POWER CUTTERS - ELECTRIC SHOP, MACHINE SHOP, MAINTENANCE
FANS - THROUGHOUT YARD
HEATERS - THROUGHOUT YARD
SHOVELS - YARD MAINTENANCE BLDG, SHOPS, WAREHOUSE
TOOL BOXES - YARD WIDE , MAINTENANCE SHOP, MACHINE SHOP
CUTTING EQUIPMENT - YARD WIDE
PROTECTIVE CLOTHING - SAFETY STORE , EMERGENCY LOCKER
BOOTS - SAFETY STORE
ABSORBANT - RECEIVING WAREHOUSE, RIGGERS LOFT, WASTE STORAGE AREA
600' FT BOOM - SOUTH DOCK, ABSORBANT BOOM IN RIGGERS LOFT.

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

July 31, 1995

CERTIFIED MAIL NO. Z 200 261 774

Mr. Emerald Smith
Halter Marine Inc.
5801 Elderferry Road
Moss Point, MS 39562-8767

Dear Mr. Smith:

Re: RCRA Inspection

Enclosed please find our inspection report that was completed as a result of a Compliance Evaluation Inspection (CEI) at Halter Marine Inc., on July 27, 1995. This inspection revealed the following violation of Mississippi Hazardous Waste Management Regulation (MHWMR):

265.35(b): A copy of the contingency plan and all revisions to the plan must be submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency service.

262.34(a)(3): A generator must label all hazardous waste storage containers or tanks clearly with the words " Hazardous Waste".

262.34(a)(2): A generator must label all hazardous waste storage containers with the date when the drum is full.

265.52(e): The contingency plan must include a list of all emergency equipment at the facility, the location and physical description of each item, and a brief outline of each items capability. The list must be kept up-to-date.

We request that you respond to these alleged violations within 10 days of receipt of this letter. This response should contain: (1) actions that have been taken to correct the violation, (2) schedule for correcting the violation, or (3) reasons that you believe the alleged violation did not exist. The Office of Pollution Control will review this information before determining if further action is warranted. Failure to submit this information may result in enforcement action.

If you have any questions, do not hesitate to contact me at (601) 961-5171.

Sincerely,

Mohammad Yassin

Mohammad Yassin

cc: Mr. Alan Farmer, USEPA

RCRA Inspection

1. Inspector and Author of Report
Mohammad Yassin
Mississippi Department of Environmental Quality (MSDEQ)
Office of Pollution Control (OPC)

2. Facility Information
Halter Marine Inc.
5801 Elderferry Road
Moss Point, Mississippi
Jackson County

3. Responsible Company Official
Emerald Smith - Safety Manager

4. Inspection Participants
Emerald Smith - Moss Point Marine Inc.
Mohammad Yassin - MSDEQ

5. Date and Time of Inspection
July 27, 1995 - 12:35 PM - 3:40 PM

6. Applicable Regulation
Mississippi Hazardous Waste Management Regulation (MHWMR)
MHWMR 262
MHWMR 263
MHWMR 265
MHWMR 268

7. Purpose of Inspection
Ensure facility's compliance with MHWMR.

8. Facility Description
Halter Marine Inc. (HMI), is located on Elderferry Road, Moss Point, Jackson County, Mississippi. It is approximately 39 acres in size with a restricted access by a 7-ft high fence, a river, and a gate. About 300 people are employed at this location currently. The facility builds ships for both military and civilian purposes. The building process is conducted outdoors and consists of, cutting, welding, assembly of mechanical/electrical parts, painting, and testing. The following buildings and equipment are located on site; offices, warehouses, fabrication shop, carpentry shop, overhead cranes, storage areas, storage building, parking area, cutting machine, welding machines, spraying equipment, pipes, valves, distillation equipment, tanks, communication system (telephone), and fire extinguishers.

The principal hazardous wastes generated and managed at the facility are paint related wastes.

HMI operates and manages four accumulation areas and one 90-day storage area. Accumulation area #1 is located in the north eastern portion of the facility. It is approximately 12 ft x 7 ft and 7 ft high, and consists of metal floor, 6-in dike, four columns, and a roof. Accumulation area #2 is similar to #1 in structure and is used to consolidate wastes from through out the facility into 55-gallon drums. Accumulation area # 3 is similar in structure to area #1 and 2 located nearly at the south center portion of the facility. Accumulation area #4 is located at the south western portion of the facility. It is similar in structure and purpose to the other accumulation areas. The storage area is located in the northern portion of the facility more than 100 feet from the property line. It is approximately 20 ft x 20 ft and about 10 feet high. It consists of four walls, a concrete floor, 6-in metal dike, and a roof. The metal dike would prevent any migration of waste from the storage area.

9. <u>Finding</u>

Based on the facility's manifests (1991-1994), Halter Marine Inc. generated mainly waste paint related materials. These wastes were transported mainly by Trinity Industries, the owner of Halter, and were shipped to the following facilities; American Resource Recovery, Fisher Industrial Service, and Rinco. No deficiencies were found in the facility's manifests. Halter has been maintaining personnel training records and log for hazardous waste containers inspection. The following deficiency was found in the contingency plan; the facility has no emergency equipment list. Mr. Smith stated that the facility sent copies of the plan to all local police, fire departments and hospitals. However, no documentation were found to show that the facility submitted the plan to the referenced entities. No deficiencies were found in the annual reports. At the time of this inspection there were four accumulation areas and one storage area on site.

<u>Accumulation Area #1</u>

One 55-gallon drum used to hold hazardous flammable waste was labeled "Hazardous Waste". Twenty 5-gallon containers containing paint were located in this area.

<u>Accumulation Area #2</u>

Twenty-five 5-gallon cans holding paint and one 55-gallon drum containing hazardous waste were located in this area. The drum was labeled "Hazardous Waste" and dated 7-12-95. In addition one 55-gallon drum labeled "Hazardous Waste" and dated 7-24-1995 was located on wooden pallets near but outside this accumulation area. The drum was full.

Accumulation Area #3

One 55-gallon drum containing paint related wastes was labeled "Hazardous Waste" and dated 6-01-95. In addition twenty 5-gallon drums containing paint were located at this area.

Accumulation Area #4

One 55-gallon drum containing paint related wastes was labeled "Hazardous Waste" and dated 7-22-95. In addition sixty 5-gallon drums containing paint were located at this area.

Storage Area

One 55-gallon drum containing solid hazardous waste was stored at this area. The drum was not labeled nor dated.

10. Conclusion

This inspection revealed that the facility is in violation of the following MHWMR;

265.35(b): A copy of the contingency plan and all revisions to the plan must be submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency service.

262.34(a)(3): A generator must label all hazardous waste storage containers or tanks clearly with the words " Hazardous Waste".

262.34(a)(2): A generator must label all hazardous waste storage containers with the date when the drum is full.

265.52(e): The contingency plan must include a list of all emergency equipment at the facility, the location and physical description of each item, and a brief outline of each items capability. The list must be kept up-to-date.

Halter Marine Inc. Is designated as a large quantity generator for the year 1995.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME Walter Marine
1049 Elder ferry Rd.
Moss Point, MS 39563

EPA ID NO. MSD010820896

U.S. ENVIRONMENTAL PROTECTION AGENCY

1989 Hazardous Waste Report

FORM IC

IDENTIFICATION AND CERTIFICATION

RECEIVED
MAR - 7 REC'D
Dept. of Environmental Quality
Bureau of Pollution Control

INSTRUCTIONS: Read the detailed instructions beginning on page 7 of the 1989 Hazardous Waste Report booklet before completing this form.

SEC. I Site name and location address. Complete items A through H. Check the box ☒ in items A, B, D, E, F, G, and H if same as label; if different, enter corrections. If label is absent, enter information. Instruction page 7.

A. EPA ID No. Same as label ☒ or →

B. Site/company name Same as label ☒ or →

C. Has the site name associated with this EPA ID changed since 1987? ☐ 1 Yes ☒ 2 No

D. Street name and number. If not applicable, enter industrial park, building name or other physical location description. Same as label ☒ or →

E. City, town, village, etc. Same as label ☒ or →

F. County

G. State Same as label ☒

H. Zip Code Same as label ☒

SEC. II Mailing address of site. Instruction page 7.

A. Is the mailing address the same as the location address? ☐ 1 Yes (SKIP TO SEC. III) ☐ 2 No (COMPLETE SEC. II)

P.O. Box 767

B. Number and street name of mailing address

C. City, town, village, etc. Moss Point

D. State MS

E. Zip Code 39563-

SEC. III Name, title, and telephone number of the person who should be contactec if questions arise regarding this report. Instruction page 7.

A. Please print: Last name Fontenette First name Malcolm M.I. P.

B. Title Safety Director

C. Telephone 504 286-2500 Extension 2516

SEC. IV Enter the Standard Industrial Classification (SIC) Code that describes the principal products, group of products, produced or distributed, or the services rendered at the site's physical location. Enter more than one SIC Code only if no one industry description includes the combined activities of the site. Instruction page 8.

A. 3731

B.

C.

D.

SEC. V I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Number of form pages submitted Form IC 2 Form GM Form WR Form PS

B. Please print: Last name Fontenette First name Malcolm M.I.

C. Title Safety Director.

D. Signature Malcolm Fontenette

E. Date of signature 2 28 90 MO. DAY YR.

Page 1 of

EPA Form 8700-13A/B (5-80) (Revised 11-85) (Revised 12-87) (Revised 11-89)

OVER →

Reference 4

Sec. VI Generator Status

A. 1989 generation (CHECK ONE BOX BELOW)
Instruction page 8

- ☑ 1 No (CONTINUE TO BOX B)
- ☐ 2 LQG
- ☐ 3 SQG (SKIP TO SEC. VII)
- ☐ 4 CESQG

B. Reason for not generating (CHECK ALL THAT APPLY)
Page 10

- ☐ 1 Never generated
- ☐ 2 Out of business
- ☐ 3 Only excluded or delisted waste
- ☐ 4 Only non-hazardous waste
- ☑ 5 Periodic or occasional generator
- ☐ 6 Waste minimization activity
- ☐ 7 Other (SPECIFY IN COMMENTS)

Sec. VII On-Site Waste Management Status

A. Storage
Instruction page 11

☑

B. RCRA treatment, recycling, or disposal
Page 11

☑

C. RCRA-exempt treatment, recycling, or disposal
Page 12

☑

Sec. VIII Waste Minimization Activity during 1988 or 1989

A. Did this site begin or expand a source reduction activity during 1988 or 1989?
Instruction page 12

- ☑ 1 Yes
- ☐ 2 No

B. Did this site begin or expand a recycling activity during 1988 or 1989?
Page 13

- ☑ 1 Yes
- ☐ 2 No

C. Did this site conduct a source reduction or recycling opportunity assessment during 1988 or 1989?
Page 13

- ☑ 1 Yes
- ☐ 2 No

D. What factors have limited this site from initiating new source reduction activities during 1988 or 1989? (CHECK ALL THAT APPLY)
Page 13

- ☐ 01 No factors have limited new source reduction activities.
- ☐ 02 Insufficient capital to install new source reduction equipment or implement new source reduction practices.
- ☐ 03 Lack of technical information on source reduction techniques applicable to the specific production processes.
- ☑ 04 Source reduction is not economically feasible: cost savings in waste management or production will not recover the capital investment.
- ☐ 05 Concern that product quality may decline as a result of source reduction.
- ☐ 06 Technical limitations of the production processes.
- ☐ 07 Permitting burdens.
- ☐ 08 Other (SPECIFY IN COMMENTS)

E. What factors have limited this site from initiating new on-site or off-site recycling activities during 1988 or 1989? (CHECK ALL THAT APPLY)
Page 13

- ☐ 01 No factors have limited new recycling activities.
- ☐ 02 Insufficient capital to install new recycling equipment or implement new recycling practices.
- ☐ 03 Lack of technical information on recycling techniques applicable to this site's specific production processes.
- ☐ 04 Recycling not economically feasible: cost savings in waste management or production will not recover the capital investment.
- ☐ 05 Concern that product quality may decline as a result of recycling.
- ☐ 06 Requirements to manifest wastes inhibit shipments off site for recycling.
- ☐ 07 Financial liability provisions inhibit shipments off site for recycling.
- ☐ 08 Technical limitations of product processes inhibit shipments off site for recycling.
- ☐ 09 Techical limitations of production processes inhibit on-site recycling.
- ☐ 10 Permitting burdens inhibit recycling.
- ☐ 11 Lack of permitted off-site recycling facilities.
- ☐ 12 Unable to identify a market for recyclable materials.
- ☐ 13 Other (SPECIFY IN COMMENTS)

Comments: D- We paint Barges Ships

E- If wastes gather we ship off to be recycle.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved OMB No. 2050-0028 Expires 9-30-88
GSA No 0246-EPA-OT

United States Environmental Protection Agency
Washington, DC 20460

EPA Notification of Hazardous Waste Activity

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law (*Section 3010 of the Resource Conservation and Recovery Act*).

For Official Use Only

Comments

C
C

Installation's EPA ID Number	Approved	Date Received (yr. mo. day)	
C F	T/A C 1			Jackson

I. Name of Installation

HALTER MARINE INC

II. Installation Mailing Address

Street or P.O. Box		
3 P.O. BOX 767		
City or Town	**State**	**ZIP Code**
4 MOSS POINT	MS	39563

III. Location of Installation

Street or Route Number		
5 1049 ELDERFERRY ROAD		
City or Town	**State**	**ZIP Code**
6 MOSS POINT	MS	39563

IV. Installation Contact

Name and Title (last, first, and job title)	Phone Number (area code and number)
2 FONTENETTE MALCOLM	504 286 2500

V. Ownership

A. Name of Installation's Legal Owner	B. Type of Ownership (enter code)
R TRINITY INDUSTRIES	P

VI. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes. Refer to instructions.)

A. Hazardous Waste Activity

- ☑ 1a. Generator
- ☐ 1b. Less than 1,000 kg/mo.
- ☐ 2. Transporter
- ☐ 3. Treater/Storer/Disposer
- ☐ 4. Underground Injection
- ☐ 5. Market or Burn Hazardous Waste Fuel (*enter 'X' and mark appropriate boxes below*)
  - ☐ a. Generator Marketing to Burner
  - ☐ b. Other Marketer
  - ☐ c. Burner

B. Used Oil Fuel Activities

- ☐ 6. Off-Specification Used Oil Fuel (*enter 'X' and mark appropriate boxes below*)
  - N/A ☐ a. Generator Marketing to Burner
  - ☐ b. Other Marketer
  - ☐ c. Burner
- N/A ☐ 7. Specification Used Oil Fuel Marketer (*or On site Burner*) Who First Claims the Oil Meets the Specification

VII. Waste Fuel Burning: Type of Combustion Device (*enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion devices.*)

N/A

☐ A. Utility Boiler ☐ B. Industrial Boiler ☐ C. Industrial Furnace

VIII. Mode of Transportation (*transporters only — enter 'X' in the appropriate box(es)*)

N/A

☐ A. Air ☐ B. Rail ☐ C. Highway ☐ D. Water ☐ E. Other (*specify*)

IX. First or Subsequent Notification

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

☑ A. First Notification ☐ B. Subsequent Notification (*complete item C*)

C. Installation's EPA ID Number: MSD008208696

EPA Form 8700-12 (Rev. 11-85) Previous edition is obsolete.

Continue on reverse

Reference 4

ID — For Official Use Only														
C													T/A	C
W														1

X. Description of Hazardous Wastes *(continued from front)*

A. Hazardous Wastes from Nonspecific Sources. Enter the four-digit number from 40 *CFR* Part 261.31 for each listed hazardous waste from nonspecific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
D001	F003	F005			
7	**8**	**9**	**10**	**11**	**12**

B. Hazardous Wastes from Specific Sources. Enter the four-digit number from 40 *CFR* Part 261.32 for each listed hazardous waste from specific sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

C. Commercial Chemical Product Hazardous Wastes. Enter the four-digit number from 40 *CFR* Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	**38**	**39**	**40**	**41**	**42**
43	**44**	**45**	**46**	**47**	**48**

D. Listed Infectious Wastes. Enter the four-digit number from 40 *CFR* Part 261.34 for each hazardous waste from hospitals, veterinary hospitals, or medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. Characteristics of Nonlisted Hazardous Wastes. Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 — 261.24)*

☑ 1. Ignitable *(D001)* ☐ 2. Corrosive *(D002)* ☐ 3. Reactive *(D003)* ☑ 4. Toxic *(D000)*

XI. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature	Name and Official Title *(type or print)*	Date Signed
Malcolm Fontenette	MALCOLM FONTENETTE SAFETY DIR	2-28-90

Notification of Hazardous Waste Activity
Addendum

Facility Name WALTER MARINE
City MOSS POINT MS.

INSTRUCTIONS:

MARK ALL THAT APPLY

A. Hazardous Waste Activity

1. Do you generate less than 100 kg/mo (220 lb/mo)? Yes __ No ✓

B. Used Oil Fuel Activities

7. Specification Used Oil Fuel Marketer (or On-Site Burner) Who First Claims the Oil Meets the Specification

N/A Marketer
N/A On-Site Burner

C. Recycling Activities

___ On-Site Solvent Recovery/Recycling
___ Lead-Acid Battery Recycling
___ Precious Metals Recycling (Silver from x-ray and photographic solutions)
___ Other; specify American Resource Recovery

D. Hazardous Waste Storage

✓ Drums
___ Tanks
___ Impoundments
___ Other; specify ________

AQUIFER CODE EXPLANATION

112MRVA	Mississippi River alluvial aquifer
121CRNL	Citronelle Formation
121GRMF	Graham Ferry Formation
122MOCN	Miocene Series, undifferentiated
122PCGL	Pascagoula Formation
122HBRG	Hattiesburg Formation
122CTHL	Catahoula Formation
122CTHLU	Catahoula Formation, Upper
122CTHLM	Catahoula Formation, Middle
122CTHLL	Catahoula Formation, Lower
123WSBR	Waynesboro Sand
123VKBG	Vicksburg Group
123FRHL	Forest Hill Sand
124CCKF	Cockfield Formation
124SPRT	Sparta Sand
124TLLT	Tallahatta Formation
124MUWX	Meridian-Upper Wilcox aquifer
124TSCM	Tuscahoma Formation
124WLCXM	Middle Wilcox aquifer
124WLCXL	Lower Wilcox aquifer
211RPLY	Ripley Formation
211COFF	Coffee Sand
211EUTW	Eutaw Formation
211MCSN	McShan Formation
211GORD	Gordo Formation
211MSSV	Massive Sand
300PLZC	Paleozoic rocks

A - Air conditioning
B - Bottling
C - Commercial
D - Dewater
E - Power
F - Fire
H - Domestic
I - Irrigation
J - Industrial (cooling)
K - Mining
M - Medicinal
N - Industrial
P - Public supply
Q - Aquaculture
R - Recreation
S - Stock
T - Institutional
U - Unused
Y - Desalination
Z - Other (explain in remarks)

DATE: 10/13/95 1/2 MI TABLE FOR HALTER MARINE SITE JACKSON CO MS

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q013 J A COWART	NWSES19T07SR05W	H	990	30.00	122MOCN

Ref #5

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P033 W W WILLIAMS	SESES13T07SR06W	H	750	--	122MOCN
P042 C B FARRIOR	NWSES24T07SR06W	-	279	--	121GRMF
P047 MOSS POINT	NENWS25T07SR06W	U	96.0	--	121CRNL
P048 MOSS POINT	NENWS25T07SR06W	U	1100	--	122PCGL
P049 MOSS POINT	NENWS25T07SR06W	U	1807	--	122MOCN
P050 MOSS POINT	NENWS25T07SR06W	U	1165	--	122MOCN
P051 MOSS POINT	NWSWS25T07SR06W	U	906	--	122MOCN
P052 MOSS POINT	NESWS25T07SR06W	U	843	--	122MOCN
P053 MOSS POINT	NESWS25T07SR06W	U	145	--	121CRNL
P163 A & M RR CO	----S25T07SR06W	H	700	--	122PCGL
P165 MOSS POINT	SWSES24T07SR06W	U	214	--	121CRNL
P191 JOE MC COOL	SESWS24T07SR06W	H	194	--	--
P223 MOSS POINT	NENWS25T07SR06W	U	79.0	--	121CRNL
P224 MOSS POINT	NENWS25T07SR06W	U	155	--	121CRNL
P225 MOSS POINT	NENWS25T07SR06W	U	1100	90.00	122MOCN
P248 HULTZ SEAFD CO	NESWS24T07SR06W	U	200	15.00	--
P283 DAN GASH	SWSWS24T07SR06W	H	89.0	--	121CRNL
Q010 CLYDE WELLS	SWNWS18T07SR05W	H	189	--	121GRMF
Q011 DAVID WALKER	SWNWS18T07SR05W	H	1331	--	122MOCN
Q012 MONROE HOLLAND	SWSWS18T07SR05W	U	65.0	--	112TRCS
Q013 J A COWART	NWSES19T07SR05W	H	990	30.00	122MOCN
Q014 THIOKOL CHEM	NENES19T07SR05W	Z	178.	200.00	121GRMF
Q015 THIOKOL CHEM	NENES19T07SR05W	U	250	--	121GRMF
Q017 THIOKOL CHEM CORP	NENES19T07SR05W	U	182	400.00	121GRMF
Q018 THIOKOL CHEM CORP	NENES19T07SR05W	N	250	400.00	121GRMF
Q019 ZAPATA	SENES19T07SR05W	N	950.	150.00	122PCGL
Q057 MOSS POINT	NESWS30T07SR05W	U	954	500.00	122PCGL
Q058 MOSS POINT	SWNES30T07SR05W	U	792	--	122PCGL
Q139 J E CLARK	SESWS18T07SR05W	-	358.	--	121GRMF
Q142 W A GREENOUGH	NWSWS18T07SR05W	H	157.	--	121GRMF
Q158 THIOKOL CHEM CO	NENES19T07SR05W	N	240	320.00	121GRMF
Q160 THIOKOL CORP	--SWS17T07SR05W	N	236	500.00	121GRMF
Q161 THIOKOL CORP	NENWS19T07SR05W	-	710	--	121GRMF
Q195 C B WILKERSON	NWSWS30T07SR05W	H	78.0	--	--
Q243 GORDON	SWNWS18T07SR05W	H	147	--	--
Q432 MOSS POINT	NENWS19T07SR05W	-	--	--	--
Q433 MOSS POINT TH-1	SWSWS18T07SR05W	-	--	--	--
Q435 MOSS POINT	SWSWS18T07SR05W	-	513	--	122PCGL
Q450 MR HAGEN	----S18T07SR05W	I	65.	12.	111ALVM
Q492 THIOKOL INC	SESES18T07SR05W	H	222	65	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P019 JOHN GILL	SESWS12T07SR06W	H	343	--	121GRMF
P020 C J RAY	NENWS09T07SR06W	H	315	--	122MOCN
P021 E B SHERMAN	NWNES09T07SR06W	H	1220.	--	122PCGL
P022 A LOPEZ	NWNES09T07SR06W	H	27.0	--	112ALVM
P023 E J SIMMONS	NWSWS09T07SR06W	H	40.0	--	111ALVM
P024 ALTON L GOFF	SWNES09T07SR06W	U	186	--	121GRMF
P025 W C EHLERS	NENES14T07SR06W	H	304	--	122MOCN
P026 CLINTON GILL	SWSES12T07SR06W	-	336	--	122MOCN
P027 HUBBARD BYRD	SENWS12T07SR06W	H	188	--	122MOCN
P029 ESCATAWPA SCHOL	NESES09T07SR06W	H	921	50.00	122PCGL
P030 BAILEY ANDERSON	NESES09T07SR06W	H	306	--	122MOCN
P031 G R HARDY	SWNES13T07SR06W	H	189	--	122MOCN
P032 GEO MILLENDER	SWSWS13T07SR06W	U	60.0	--	--
P033 W W WILLIAMS	SESES13T07SR06W	H	750	--	122MOCN
P034 GEORGE PLANER	SENWS09T07SR06W	H	35.0	--	111ALVM
P041 HOLTZ SEAFOOD C	NWNWS24T07SR06W	H	206	--	122MOCN
P042 C B FARRIOR	NWSES24T07SR06W	-	279	--	121GRMF
P043 UNKNOWN	NENWS10T07SR06W	H	790	50.00	122MOCN
P044 DR CALHOUN	NENES10T07SR06W	H	793	--	122PCGL
P045 CENT ARTES WELL	NENES10T07SR06W	U	806	150.00	122PCGL
P046 MCKINNIS FLORST	SESES23T07SR06W	U	84.0	--	112ALVM
P047 MOSS POINT	NENWS25T07SR06W	U	96.0	--	121CRNL
P048 MOSS POINT	NENWS25T07SR06W	U	1100	--	122PCGL
P049 MOSS POINT	NENWS25T07SR06W	U	1807	--	122MOCN
P050 MOSS POINT	NENWS25T07SR06W	U	1165	--	122MOCN
P051 MOSS POINT	NWSWS25T07SR06W	U	906	--	122MOCN
P052 MOSS POINT	NESWS25T07SR06W	U	843	--	122MOCN
P053 MOSS POINT	NESWS25T07SR06W	U	145	--	121CRNL
P054 MOSS POINT	NWSES25T07SR06W	P	808	455.00	122PCGL
P055 MOSS POINT	SENWS25T07SR06W	U	840	--	122MOCN
P056 MOSS POINT	SENWS25T07SR06W	U	804	--	122MOCN
P057 MOSS POINT	SENWS25T07SR06W	U	820	--	122PCGL
P060 D L WEBSTER	NENES36T07SR06W	H	247	--	121GRMF
P061 G F FERRER	NESES36T07SR06W	H	250	--	122MOCN
P146 KARL WIESENBERG	--NWS07T08SR06W	H	300	--	121GRMF
P149 ESCATAWPA	SWSES12T07WR06W	U	1128	--	122PCGL
P152 TED BAILEY	NWSWS13T07SR06W	H	198	--	121GRMF
P161 ALTON L GOFF	SWNES09T07SR06W	H	176	--	121GRMF
P162 C STRINGFELLOW	NENWS09T07SR06W	H	308	--	121GRMF
P163 A & M RR CO	----S25T07SR06W	H	700	--	122PCGL

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P165 MOSS POINT	SWSES24T07SR06W	U	214	--	121CRNL
P175 JOE WILSON	NENWS15T07SR06W	H	64.0	--	--
P181 VERNON CROPP	NWNES09T07SR06W	H	304	--	121GRMF
P190 JAMES SAVAGE	NWSWS13T07SR06W	H	173	--	--
P191 JOE MC COOL	SESWS24T07SR06W	H	194	--	--
P193 LOTTIE ROSS	NESES09T07SR06W	H	356	--	--
P215 CHARLEY MAYS	NESWS09T07SR06W	H	78.0	4.00	--
P216 BECKHAM	NWNES09T07SR06W	H	89.0	--	--
P220 BOARD OF SUPVRS	NESES09T07SR06W	U	365	--	--
P221 BOARD OF SUPVRS	NENES09T07SR06W	-	--	--	--
P223 MOSS POINT	NENWS25T07SR06W	U	79.0	--	121CRNL
P224 MOSS POINT	NENWS25T07SR06W	U	155	--	121CRNL
P225 MOSS POINT	NENWS25T07SR06W	U	1100	90.00	122MOCN
P226 ECATAWPA	NWNWS13T07SR06W	P	345.	260.00	121GRMF
P227 JACKSON COUNTY	NENES09T07SR06W	U	347	--	122PCGL
P228 JACKSON COUNTY	SESWS12T07SR06W	U	415.	200.00	121GRMF
P239 FRANK T LEE	SWNES10T07SR06W	I	72.0	--	--
P248 HULTZ SEAFD CO	NESWS24T07SR06W	U	200	15.00	--
P249 G R HARDY	SWNES13T07SR06W	H	189	8.00	--
P250 W W WILLIAMS	SENES13T07SR06W	H	189	--	--
P283 DAN GASH	SWSWS24T07SR06W	H	89.0	--	121CRNL
P284 LEROY SIMMS	----S15T07SR06W	H	68.0	5.00	121CRNL
P286 ROYCE CROWLEY	NESWS13T07SR06W	H	173	--	121GRMF
P288 F T LEE	SWNES23T07SR06W	H	72.0	--	121CRNL
P290 G C CALVIN	NWSWS13T07SR06W	H	189	6.00	121GRMF
P306 HAYDELL	----S12T07SR06W	H	252	--	121GRMF
P321 E B SMITH	NESWS26T07SR06W	H	396	8.00	122PCGL
P327 J A ROLLINS	----S15T07SR06W	H	242	10.00	121GRMF
P332 ROBERT BAILEY	----S13T07SR06W	H	329	--	121GRMF
P342 ERWIN & CO	SESWS12T08SR06W	I	90.0	15.00	121CRNL
P346 JAMES W HUGHEY	NESES13T07SR06W	H	195	--	121GRMF
P347 L C NEWELL	----S12T07SR06W	H	438	8.00	121GRMF
P353 MOSS POINT HIGH	SENWS10T07SR06W	I	80.	60.00	121CRNL
P355 MOSS POINT	NWNES36T07SR06W	P	827	700.00	122PCGL
P368 DARELL WADE	SENWS26T07SR06W	H	85.0	8.00	121CRNL
P375 ESCATAWPA	NENES09T07SR06W	P	350	250.00	121GRMF
P376 ESCATAWPA	SWSES12T07SR06W	P	417	250.00	121GRMF
P382 MOSS POINT	SWNES15T07SR06W	P	846	1000.00	122PCGL
P425 JOHN BOWMAN	----S01T07SR06W	I	40.	8.	111ALVM
P427 MRS. FARSEMAN	----S10T07SR06W	I	70.	8.	111ALVM

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q010 CLYDE WELLS	SWNWS18T07SR05W	H	189	--	121GRMF
Q011 DAVID WALKER	SWNWS18T07SR05W	H	1331	--	122MOCN
Q012 MONROE HOLLAND	SWSWS18T07SR05W	U	65.0	--	112TRCS
Q013 J A COWART	NWSES19T07SR05W	H	990	30.00	122MOCN
Q014 THIOKOL CHEM	NENES19T07SR05W	Z	178.	200.00	121GRMF
Q015 THIOKOL CHEM	NENES19T07SR05W	U	250	--	121GRMF
Q016 THIOKOL CHEM	SWSWS17T07SR05W	-	967.	300.00	122PCGL
Q017 THIOKOL CHEM CORP	NENES19T07SR05W	U	182	400.00	121GRMF
Q018 THIOKOL CHEM CORP	NENES19T07SR05W	N	250	400.00	121GRMF
Q019 ZAPATA	SENES19T07SR05W	N	950.	150.00	122PCGL
Q021 STDRD PRODUCTS	NWNWS20T07SR05W	U	1001	--	122PCGL
Q022 STNRD PRODUCTS	NESES19T07SR05W	U	178	--	121CRNL
Q023 STNRD PRODUCTS	NWNWS20T07SR05W	U	183	--	121CRNL
Q024 STNDR PRODUCTS	NWNWS20T07SR05W	U	247	--	121GRMF
Q025 SMITH FISHERIES	NENWS20T07SR05W	U	200	--	121GRMF
Q026 SMITH FISHIERS	NWNWS20T07SR05W	U	130	--	121GRMF
Q027 SMITH FISHIERES	NENWS20T07SR05W	N	231	600.00	121GRMF
Q057 MOSS POINT	NESWS30T07SR05W	U	954	500.00	122PCGL
Q058 MOSS POINT	SWNES30T07SR05W	U	792	--	122PCGL
Q139 J E CLARK	SESWS18T07SR05W	-	358.	--	121GRMF
Q142 W A GREENOUGH	NWSWS18T07SR05W	H	157.	--	121GRMF
Q151 ZAPATA	NWNWS20T07SR05W	N	232	500.00	121GRMF
Q158 THIOKOL CHEM CO	NENES19T07SR05W	N	240	320.00	121GRMF
Q159 THIOKOL CORP	SWSWS17T07SR05W	N	231	400.00	121GRMF
Q160 THIOKOL CORP	--SWS17T07SR05W	N	236	500.00	121GRMF
Q161 THIOKOL CORP	NENWS19T07SR05W	-	710	--	121GRMF
Q162 THIOKOL CORP	SWSWS17T07SR05W	U	296	--	121GRMF
Q163 THIOKOL CORP	SWSWS17T07SR05W	U	310	--	121GRMF
Q166 MOSS POINT	NESWS29T07SR05W	U	645.	400.00	122PCGL
Q195 C B WILKERSON	NWSWS30T07SR05W	H	78.0	--	--
Q228 LOUIS DELMAS	SWNES30T07SR05W	I	73.0	--	--
Q237 A C STEPHEWS	NWNWS29T07SR05W	H	118	--	--
Q243 GORDON	SWNWS18T07SR05W	H	147	--	--
Q244 BURT LOLLAR	SENWS30T07SR05W	I	68.0	--	--
Q249 JAMES SAVAGE	NWSES31T07SR05W	I	88.0	--	--
Q278 JOHN L RAY	NWSES18T07SR05W	H	199	--	121GRMF
Q281 S C MCBETH	NWNES31T07SR05W	H	68.0	--	121CRNL
Q337 L ROGERS	SWNWS30T07SR05W	H	93.0	--	121CRNL
Q344 H W DAVIS	----S30T07SR05W	H	257	--	121GRMF
Q382 M R ROBINSON	SENWS29T07SR05W	H	256	8.00	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q417 MOSS POINT	SESWS30T07SR05W	P	802	577.00 503	122PCGL --
Q417 MOSS POINT	SESWS30T07SR05W	P	802.	577.	122MOCN
Q432 MOSS POINT	NENWS19T07SR05W	-	--	--	--
Q433 MOSS POINT TH-1	SWSWS18T07SR05W	-	--	--	--
Q434 MOSS POINT	SWNWS18T07SR05W	P	435	300.00	121GRMF
Q435 MOSS POINT	SWSWS18T07SR05W	-	513	--	122PCGL
Q449 JAMES FLURRY	----S30T07SR05W	I	65.	8.	111ALVM
Q450 MR HAGEN	----S18T07SR05W	I	65.	12.	111ALVM
Q492 THIOKOL INC	SESES18T07SR05W	H	222	65	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P009 FRED NOLF	SWSES01T07SR06W	H	59.0	--	112ALVM
P010 MACKIE ROGERS	NENWS12T07SR06W	H	616.	--	121GRMF
P011 NOLAND SMITH	SWNWS12T07SR06W	H	532	--	122PCGL
P012 E H CROPP	NWSES12T07SR06W	H	609	--	122MOCN
P013 CLEO GRAHAM	NENWS12T07SR06W	H	630	--	122PCGL
P014 J CUNNINGHAM	SENWS12T07SR06W	U	328	--	121GRMF
P015 W O GREENOUGH	NWSES12T07SR06W	H	336	--	122MOCN
P016 A B EVANS	SWNES12T07SR06W	H	33.0	--	112ALVM
P017 J E NELSON	SENES11T07SR06W	H	25.0	--	112ALVM
P018 A H GREENOUGH	SESES11T07SR06W	H	174.	--	121CRNL
P019 JOHN GILL	SESWS12T07SR06W	H	343	--	121GRMF
P020 C J RAY	NENWS09T07SR06W	H	315	--	122MOCN
P021 E B SHERMAN	NWNES09T07SR06W	H	1220.	--	122PCGL
P022 A LOPEZ	NWNES09T07SR06W	H	27.0	--	112ALVM
P023 E J SIMMONS	NWSWS09T07SR06W	H	40.0	--	111ALVM
P024 ALTON L GOFF	SWNES09T07SR06W	U	186	--	121GRMF
P025 W C EHLERS	NENES14T07SR06W	H	304	--	122MOCN
P026 CLINTON GILL	SWSES12T07SR06W	-	336	--	122MOCN
P027 HUBBARD BYRD	SENWS12T07SR06W	H	188	--	122MOCN
P029 ESCATAWPA SCHOL	NESES09T07SR06W	H	921	50.00	122PCGL
P030 BAILEY ANDERSON	NESES09T07SR06W	H	306	--	122MOCN
P031 G R HARDY	SWNES13T07SR06W	H	189	--	122MOCN
P032 GEO MILLENDER	SWSWS13T07SR06W	U	60.0	--	--
P033 W W WILLIAMS	SESES13T07SR06W	H	750	--	122MOCN
P034 GEORGE PLANER	SENWS09T07SR06W	H	35.0	--	111ALVM
P041 HOLTZ SEAFOOD C	NWNWS24T07SR06W	H	206	--	122MOCN
P042 C B FARRIOR	NWSES24T07SR06W	-	279	--	121GRMF
P043 UNKNOWN	NENWS10T07SR06W	H	790	50.00	122MOCN
P044 DR CALHOUN	NENES10T07SR06W	H	793	--	122PCGL
P045 CENT ARTES WELL	NENES10T07SR06W	U	806	150.00	122PCGL
P046 MCKINNIS FLORST	SESES23T07SR06W	U	84.0	--	112ALVM
P047 MOSS POINT	NENWS25T07SR06W	U	96.0	--	121CRNL
P048 MOSS POINT	NENWS25T07SR06W	U	1100	--	122PCGL
P049 MOSS POINT	NENWS25T07SR06W	U	1807	--	122MOCN
P050 MOSS POINT	NENWS25T07SR06W	U	1165	--	122MOCN
P051 MOSS POINT	NWSWS25T07SR06W	U	906	--	122MOCN
P052 MOSS POINT	NESWS25T07SR06W	U	843	--	122MOCN
P053 MOSS POINT	NESWS25T07SR06W	U	145	--	121CRNL
P054 MOSS POINT	NWSES25T07SR06W	P	808	455.00	122PCGL
P055 MOSS POINT	SENWS25T07SR06W	U	840	--	122MOCN

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P056 MOSS POINT	SENWS25T07SR06W	U	804	--	122MOCN
P057 MOSS POINT	SENWS25T07SR06W	U	820	--	122PCGL
P058 SOC OF ST JOHN	NENWS35T07SR06W	H	945	--	122MOCN
P059 WOODLAND NURSRY	--NES35T07SR06W	I	90.0	--	121CRNL
P060 D L WEBSTER	NENES36T07SR06W	H	247	--	121GRMF
P061 G F FERRER	NESES36T07SR06W	H	250	--	122MOCN
P062 B V D WOOLEN	NWSES36T07SR06W	U	326	--	121GRMF
P063 B V D	SWNES36T07SR06W	U	350	--	121GRMF
P064 JACKSON CO CONC	NESWS36T07SR06W	H	148	--	121CRNL
P065 M A WRIGHT	SWNES36T07SR06W	H	733	--	122MOCN
P066 BRASEL STOKES	SESWS36T07SR06W	H	336	--	122MOCN
P067 AIRPORT TOUR CT	NENWS01T08SR06W	H	300	--	121GRMF
P146 KARL WIESENBERG	--NWS07T08SR06W	H	300	--	121GRMF
P149 ESCATAWPA	SWSES12T07WR06W	U	1128	--	122PCGL
P152 TED BAILEY	NWSWS13T07SR06W	H	198	--	121GRMF
P161 ALTON L GOFF	SWNES09T07SR06W	H	176	--	121GRMF
P162 C STRINGFELLOW	NENWS09T07SR06W	H	308	--	121GRMF
P163 A & M RR CO	-----S25T07SR06W	H	700	--	122PCGL
P164 ARDEN CUNNINGHM	NENWS12T07SR06W	H	386	--	121GRMF
P165 MOSS POINT	SWSES24T07SR06W	U	214	--	121CRNL
P170 J J ROGERS	SWSWS12T07SR06W	H	345	--	--
P173 J P MCGEE	NWNWS12T07SR06W	H	336	--	--
P175 JOE WILSON	NENWS15T07SR06W	H	64.0	--	--
P176 HARRY SCHAFER	NWNWS01T08SR06W	H	73.0	--	--
P177 ROBERTSON HARDW	SWSWS36T08SR06W	H	73.0	--	--
P179 JESSE LENNEP JR	SWNES12T07SR06W	H	336	--	--
P181 VERNON CROPP	NWNES09T07SR06W	H	304	--	121GRMF
P184 OTIS BARNES	NESWS11T07SR06W	H	326	--	--
P185 E N DALE	NWSES11T07SR06W	H	325.	--	121GRMF
P190 JAMES SAVAGE	NWSWS13T07SR06W	H	173	--	--
P191 JOE MC COOL	SESWS24T07SR06W	H	194	--	--
P192 JOHN DUPONT	SENES11T07SR06W	H	336	--	--
P193 LOTTIE ROSS	NESES09T07SR06W	H	356	--	--
P202 J W WALTON	NWSWS12T07SR06W	H	396	10.00	--
P204 A W HEAD	NWNES12T07SR06W	H	357	9.00	--
P208 J C CUNNINGHAM	SESES15T07SR06W	I	73.0	--	--
P215 CHARLEY MAYS	NESWS09T07SR06W	H	78.0	4.00	--
P216 BECKHAM	NWNES09T07SR06W	H	89.0	--	--
P220 BOARD OF SUPVRS	NESES09T07SR06W	U	365	--	--
P221 BOARD OF SUPVRS	NENES09T07SR06W	-	--	--	--

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P223 MOSS POINT	NENWS25T07SR06W	U	79.0	--	121CRNL
P224 MOSS POINT	NENWS25T07SR06W	U	155	--	121CRNL
P225 MOSS POINT	NENWS25T07SR06W	U	1100	90.00	122MOCN
P226 ECATAWPA	NWNWS13T07SR06W	P	345.	260.00	121GRMF
P227 JACKSON COUNTY	NENES09T07SR06W	U	347	--	122PCGL
P228 JACKSON COUNTY	SESWS12T07SR06W	U	415.	200.00	121GRMF
P229 MOSS POINT	SESWS10T07SR06W	P	890	600.00	122PCGL
P231 W R GUEST JR	S16T07SR06W	I	89.	--	121GRMF
P236 HARRY L KREBS	SENWS36T07SR06W	U	94.0	--	--
P239 FRANK T LEE	SWNES10T07SR06W	I	72.0	--	--
P248 HULTZ SEAFD CO	NESWS24T07SR06W	U	200	15.00	--
P249 G R HARDY	SWNES13T07SR06W	H	189	8.00	--
P250 W W WILLIAMS	SENES13T07SR06W	H	189	--	--
P262 W V BURNS	-----S01T08SR06W	H	132	--	121GRMF
P271 ABBY GRIFFIN	NWSES12T07SR06W	H	68.0	4.00	121CRNL
P276 CLYDE OLIVER	NESWS12T07SR06W	H	69.	--	121GRMF
P281 W WILLIAMS	SENWS36T07SR06W	H	70.0	4.00	121CRNL
P283 DAN GASH	SWSWS24T07SR06W	H	89.0	--	121CRNL
P284 LEROY SIMMS	-----S15T07SR06W	H	68.0	5.00	121CRNL
P285 A R CREWS	NWSES12T07SR06W	H	68.	--	121CRNL
P286 ROYCE CROWLEY	NESWS13T07SR06W	H	173	--	121GRMF
P287 PAUL GARDNER	NESWS35T07SR06W	H	87.0	--	121CRNL
P288 F T LEE	SWNES23T07SR06W	H	72.0	--	121CRNL
P290 G C CALVIN	NWSWS13T07SR06W	H	189	6.00	121GRMF
P300 S W SMITH	NENES11T07SR06W	H	533.	7.00	122PCGL
P306 HAYDELL	-----S12T07SR06W	H	252	--	121GRMF
P309 N L BOOKER	NWSES12T07SR06W	H	609	--	122MOCN
P310 ANDY WHITEHEAD	NWNES12T07SR06W	H	174	--	121GRMF
P321 E B SMITH	NESWS26T07SR06W	H	396	8.00	122PCGL
P327 J A ROLLINS	-----S15T07SR06W	H	242	10.00	121GRMF
P330 JACK LOWMAN	NWSES12T07SR06W	H	829	9.00	122PCGL
P332 ROBERT BAILEY	-----S13T07SR06W	H	329	--	121GRMF
P342 ERWIN & CO	SESWS12T08SR06W	I	90.0	15.00	121CRNL
P346 JAMES W HUGHEY	NESES13T07SR06W	H	195	--	121GRMF
P347 L C NEWELL	-----S12T07SR06W	H	438	8.00	121GRMF
P353 MOSS POINT HIGH	SENWS10T07SR06W	I	80.	60.00	121CRNL
P354 JAMES D CROWE	SWSES36T07SR06W	H	384	12.00	121GRMF
P355 MOSS POINT	NWNES36T07SR06W	P	827	700.00	122PCGL
P359 RUDY SCHILLEREF	SESWS26T07SR06W	H	423	9.00	122MOCN
P368 DARELL WADE	SENWS26T07SR06W	H	85.0	8.00	121CRNL

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P369 OTIS BARNES	NESWS11T07SR07W	H	392	10.00	121GRMF
P375 ESCATAWPA	NENES09T07SR06W	P	350	250.00	121GRMF
P376 ESCATAWPA	SWSES12T07SR06W	P	417	250.00	121GRMF
P380 HARRY L KREBBS	--SES36T07SR06W	H	264.	20.00	121GRMF
P382 MOSS POINT	SWNES15T07SR06W	P	846	1000.00	122PCGL
P389 MOSS POINT MARINE	----S11T07SR06W	U	170.	100.00	121GRMF
P420 BEST GLOVE	NESWS36T07SR06W	N	322.	35.	121GRMF
P425 JOHN BOWMAN	----S01T07SR06W	I	40.	8.	111ALVM
P427 MRS. FARSEMAN	----S10T07SR06W	I	70.	8.	111ALVM
P447 HERMAN CROINER	----S01T07SR06W	H	201	9	121GRMF
Q006 JACKSON COUNTY	NWNWS16T07SR05W	U	318.	--	122MOCN
Q007 GEIGY CHEM CO	SWNWS16T07SR05W	U	202	--	121GRMF
Q010 CLYDE WELLS	SWNWS18T07SR05W	H	189	--	121GRMF
Q011 DAVID WALKER	SWNWS18T07SR05W	H	1331	--	122MOCN
Q012 MONROE HOLLAND	SWSWS18T07SR05W	U	65.0	--	112TRCS
Q013 J A COWART	NWSES19T07SR05W	H	990	30.00	122MOCN
Q014 THIOKOL CHEM	NENES19T07SR05W	Z	178.	200.00	121GRMF
Q015 THIOKOL CHEM	NENES19T07SR05W	U	250	--	121GRMF
Q016 THIOKOL CHEM	SWSWS17T07SR05W	-	967.	300.00	122PCGL
Q017 THIOKOL CHEM CORP	NENES19T07SR05W	U	182	400.00	121GRMF
Q018 THIOKOL CHEM CORP	NENES19T07SR05W	N	250	400.00	121GRMF
Q019 ZAPATA	SENES19T07SR05W	N	950.	150.00	122PCGL
Q021 STDRD PRODUCTS	NWNWS20T07SR05W	U	1001	--	122PCGL
Q022 STNRD PRODUCTS	NESES19T07SR05W	U	178	--	121CRNL
Q023 STNRD PRODUCTS	NWNWS20T07SR05W	U	183	--	121CRNL
Q024 STNDR PRODUCTS	NWNWS20T07SR05W	U	247	--	121GRMF
Q025 SMITH FISHERIES	NENWS20T07SR05W	U	200	--	121GRMF
Q026 SMITH FISHIERS	NWNWS20T07SR05W	U	130	--	121GRMF
Q027 SMITH FISHIERES	NENWS20T07SR05W	N	231	600.00	121GRMF
Q028 INT PAPER CO.	SWSES21T07SR05W	U	263	458.00	121GRMF
Q029 INT PAPER CO	SWSWS21T07SR05W	N	251.	293.00	121GRMF
Q030 INT PAPER CO.	SWSWS21T07SR05W	N	251	495.00	121GRMF
Q049 PAN AM OIL CO	SENES28T07SR05W	H	272	--	121GRMF
Q051 MOSS POINT	NESWS32T07SR05W	U	297	--	121GRMF
Q052 JACK SMITH	NWNWS33T07SR05W	H	254	--	121GRMF
Q053 J P SPENCE	SWNWS33T07SR05W	H	248	--	121GRMF
Q054 H H PING	NWNWS33T07SR05W	H	270	--	121GRMF
Q055 JAMES GAUTIER	SENWS29T07SR05W	H	202	--	122MOCN
Q056 M STRINGFELLOW	NWNES32T07SR05W	H	280	--	121GRMF
Q057 MOSS POINT	NESWS30T07SR05W	U	954	500.00	122PCGL

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q058 MOSS POINT	SWNES30T07SR05W	U	792	--	122PCGL
Q059 J J WHITEHEAD	NENWS06T08SR05W	H	272	--	121GRMF
Q060 J V HUDSON	SWNWS06T08SR05W	H	310	--	121GRMF
Q062 OLEN ENGLISH	NWNWS06T08SR05W	H	320	--	121GRMF
Q063 F M KITCHENS	NWNES06T07SR05W	H	305	--	122MOCN
Q064 T L SHERROD	--NWS06T08SR05W	H	273	--	121GRMF
Q138 READY MIX CONCT	SESWS32T07SR05W	U	294	--	121GRMF
Q139 J E CLARK	SESWS18T07SR05W	-	358.	--	121GRMF
Q142 W A GREENOUGH	NWSWS18T07SR05W	H	157.	--	121GRMF
Q147 CITY LUM & SUPP	SESES21T07SR05W	H	116	--	--
Q149 DAIRY FRESH COR	SESES31T07SR05W	U	333	30.00	121GRMF
Q150 MAG WELDING SUP	SESES31T07SR05W	U	325	6.00	121GRMF
Q151 ZAPATA	NWNWS20T07SR05W	N	232	500.00	121GRMF
Q158 THIOKOL CHEM CO	NENES19T07SR05W	N	240	320.00	121GRMF
Q159 THIOKOL CORP	SWSWS17T07SR05W	N	231	400.00	121GRMF
Q160 THIOKOL CORP	--SWS17T07SR05W	N	236	500.00	121GRMF
Q161 THIOKOL CORP	NENWS19T07SR05W	-	710	--	121GRMF
Q162 THIOKOL CORP	SWSWS17T07SR05W	U	296	--	121GRMF
Q163 THIOKOL CORP	SWSWS17T07SR05W	U	310	--	121GRMF
Q166 MOSS POINT	NESWS29T07SR05W	U	645.	400.00	122PCGL
Q175 H W PARKS	NWNWS06T08SR05W	H	288	--	122MOCN
Q177 C L WELVERTON	NWSWS33T07SR05W	-	252	--	121CRNL
Q178 CONCRET PROD CO	SESWS32T07SR05W	N	180	150.00	121CRNL
Q195 C B WILKERSON	NWSWS30T07SR05W	H	78.0	--	--
Q203 W MAPLES	SESWS28T07SR05W	H	283.	--	121GRMF
Q214 DURWALD DUNN	SWNES32T07SR05W	H	242	--	--
Q220 GARY SMITH	SWSWS06T07SR05W	H	312	--	--
Q221 CITY LUM + SUPP	----S28T07SR05W	H	125	--	--
Q228 LOUIS DELMAS	SWNES30T07SR05W	I	73.0	--	--
Q233 CHRIS LADNIER	NWNWS33T07SR05W	H	252	--	--
Q237 A C STEPHEWS	NWNWS29T07SR05W	H	118	--	--
Q239 STAN CONT SERV	NWNES32T07SR05W	H	50.0	--	--
Q242 SMITH BAKERY WH	NENES28T07SR05W	H	84.0	--	--
Q243 GORDON	SWNWS18T07SR05W	H	147	--	--
Q244 BURT LOLLAR	SENWS30T07SR05W	I	68.0	--	--
Q249 JAMES SAVAGE	NWSES31T07SR05W	I	88.0	--	--
Q261 REV P P PARKER	NENES06T07SR05W	H	246	--	--
Q272 MOSS POINT	SWSES29T07SR05W	U	--	--	--
Q273 R E MCCONEGHEY	NESES31T07SR05W	H	428	--	122PCGL
Q278 JOHN L RAY	NWSES18T07SR05W	H	199	--	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q281 S C MCBETH	NWNES31T07SR05W	H	68.0	--	121CRNL
Q284 J CUNNINGHAM	----S16T07SR05W	H	32.0	--	121CRNL
Q286 BEL-AIR ESTATES	NESES17T08SR05W	H	127	--	121CRNL
Q293 PASCAGOULA	NWNES06T08SR05W	P	326	550.00	121GRMF
Q298 B L JONES	NWNWS33T07SR05W	H	279	--	122PCGL
Q301 JOHN MORIE	SENWS31T07SR05W	H	154	--	121GRMF
Q337 L ROGERS	SWNWS30T07SR05W	H	93.0	--	121CRNL
Q343 C J WALKER	----S31T07SR05W	H	285	--	121GRMF
Q344 H W DAVIS	----S30T07SR05W	H	257	--	121GRMF
Q350 WILLIE WYNN	NWNWS33T07SR05W	H	269	15.00	121GRMF
Q360 C C RAY	----S21T07SR05W	H	253	--	121GRMF
Q377 HIGGINS BOTTOM	SENWS31T07SR05W	H	150	8.00	121GRMF
Q382 M R ROBINSON	SENWS29T07SR05W	H	256	8.00	121GRMF
Q401 JOE YOUNG	SWNES33T07SR05W	H	216	10.00	121GRMF
Q406 WILLIARD RICE	NWNWS28T07SR05W	H	263.	15.00	121GRMF
Q417 MOSS POINT	SESWS30T07SR05W	P	802	577.00	122PCGL
				503	--
Q417 MOSS POINT	SESWS30T07SR05W	P	802.	577.	122MOCN
Q422 INT PAPER CO	SESWS21T07SR05W	N	255	500.00	121GRMF
Q432 MOSS POINT	NENWS19T07SR05W	-	--	--	--
Q433 MOSS POINT TH-1	SWSWS18T07SR05W	-	--	--	--
Q434 MOSS POINT	SWNWS18T07SR05W	P	435	300.00	121GRMF
Q435 MOSS POINT	SWSWS18T07SR05W	-	513	--	122PCGL
Q439A THIOKOL TEST	--SES06T07SR05W	-	1830.	--	122CTHL
Q439B THIOKOL TEST	--SES06T07SR05W	-	1980.	--	122CTHL
Q446 MIKE VICE	NWSWS28T07SR05W	H	80.	8.	111ALVM
Q449 JAMES FLURRY	----S30T07SR05W	I	65.	8.	111ALVM
Q450 MR HAGEN	----S18T07SR05W	I	65.	12.	111ALVM
Q457 ESCATAWPA UTIL	SES06T07SR05W	-	--	--	--
Q477 MIKE SWITZER	--NWS28T07SR05W	H	270	8	121GRMF
Q478 WHITEHEAD CONST	--SWS32T07SR05W	H	275	--	121GRMF
Q492 THIOKOL INC	SESES18T07SR05W	H	222	65	121GRMF
Q515 WILLIE MAPLES	SESWS28T07SR05W	H	247	8.5	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
L029 GRAHAM FISHCAMP	SESWS35T06SR06W	H	61.0	--	110TRCS
L042 T D FURGERSON	SESWS35T06SR06W	H	651	--	--
L048 F D ROBERTSON	SWSWS36T06SR06W	H	157	--	122MOCN
L057 DONALD WILSON	SESWS36T06SR06W	H	496	12.00	122MOCN
L106 JESSE WHITE	SWSES35T06SR06W	H	355	--	121GRMF
M030 CLAIBORNE KOCH	SWSWS31T06SR05W	H	640	--	122MOCN
M032 LEE WATKINS	SESWS32T06SR05W	H	199	--	--
M078 E ELKIN	SESWS31T07SR05W	H	230	--	122MOCN
M107 JIM RODGERS	SESES31T06SR05W	H	590.	--	122PCGL
M118 FRANK EVERETT	SESWS31T06SR05W	H	154	--	121GRMF
M129 D H HARRISON	NWSWS31T06SR05W	H	253.	7.00	121GRMF
M159 CARLEY DEES	SWNES31T06SR05W	H	573	--	122PCGL
M160 WILLIAM KIBBY	SWNWS31T06SR05W	H	142	--	121GRMF
M183 BILLY R WILKS	SENWS31T06SR05W	H	400	25.00	121GRMF
M213 JERRY PRICE	----S31T06SR05W	H	153	10.00	121GRMF
M266 JACK LOGAN	SWSES31T06SR05W	H	720.	10	122PCGL
M320 MALCOM ROGERS	SESES31T06SR05W	H	166	7	121GRMF
P001 J BOUNDS	NWSES01T07SR06W	S	450	60.00	122MOCN
P003 STEWARD BREADLY	NENES02T07SR06W	H	372	--	122MOCN
P004 N G PRASSENOS	NENES02T07SR06W	U	60.0	--	--
P005 C O MILLER	NENWS01T07SR06W	H	373.	4.00	121GRMF
P006 GARNER ROBERTS	NESWS02T07SR06W	H	966	--	122PCGL
P007 J G ROBERTS	SWNES02T07SR06W	H	90.0	--	112ALVM
P008 PAUL ROBERTS	NESWS02T07SR06W	H	693.	--	122PCGL
P009 FRED NOLF	SWSES01T07SR06W	H	59.0	--	112ALVM
P010 MACKIE ROGERS	NENWS12T07SR06W	H	616.	--	121GRMF
P011 NOLAND SMITH	SWNWS12T07SR06W	H	532	--	122PCGL
P012 E H CROPP	NWSES12T07SR06W	H	609	--	122MOCN
P013 CLEO GRAHAM	NENWS12T07SR06W	H	630	--	122PCGL
P014 J CUNNINGHAM	SENWS12T07SR06W	U	328	--	121GRMF
P015 W O GREENOUGH	NWSES12T07SR06W	H	336	--	122MOCN
P016 A B EVANS	SWNES12T07SR06W	H	33.0	--	112ALVM
P017 J E NELSON	SENES11T07SR06W	H	25.0	--	112ALVM
P018 A H GREENOUGH	SESES11T07SR06W	H	174.	--	121CRNL
P019 JOHN GILL	SESWS12T07SR06W	H	343	--	121GRMF
P020 C J RAY	NENWS09T07SR06W	H	315	--	122MOCN
P021 E B SHERMAN	NWNES09T07SR06W	H	1220.	--	122PCGL
P022 A LOPEZ	NWNES09T07SR06W	H	27.0	--	112ALVM
P023 E J SIMMONS	NWSWS09T07SR06W	H	40.0	--	111ALVM
P024 ALTON L GOFF	SWNES09T07SR06W	U	186	--	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P025 W C EHLERS	NENES14T07SR06W	H	304	--	122MOCN
P026 CLINTON GILL	SWSES12T07SR06W	-	336	--	122MOCN
P027 HUBBARD BYRD	SENWS12T07SR06W	H	188	--	122MOCN
P029 ESCATAWPA SCHOL	NESES09T07SR06W	H	921	50.00	122PCGL
P030 BAILEY ANDERSON	NESES09T07SR06W	H	306	--	122MOCN
P031 G R HARDY	SWNES13T07SR06W	H	189	--	122MOCN
P032 GEO MILLENDER	SWSWS13T07SR06W	U	60.0	--	--
P033 W W WILLIAMS	SESES13T07SR06W	H	750	--	122MOCN
P034 GEORGE PLANER	SENWS09T07SR06W	H	35.0	--	111ALVM
P041 HOLTZ SEAFOOD C	NWNWS24T07SR06W	H	206	--	122MOCN
P042 C B FARRIOR	NWSES24T07SR06W	-	279	--	121GRMF
P043 UNKNOWN	NENWS10T07SR06W	H	790	50.00	122MOCN
P044 DR CALHOUN	NENES10T07SR06W	H	793	--	122PCGL
P045 CENT ARTES WELL	NENES10T07SR06W	U	806	150.00	122PCGL
P046 MCKINNIS FLORST	SESES23T07SR06W	U	84.0	--	112ALVM
P047 MOSS POINT	NENWS25T07SR06W	U	96.0	--	121CRNL
P048 MOSS POINT	NENWS25T07SR06W	U	1100	--	122PCGL
P049 MOSS POINT	NENWS25T07SR06W	U	1807	--	122MOCN
P050 MOSS POINT	NENWS25T07SR06W	U	1165	--	122MOCN
P051 MOSS POINT	NWSWS25T07SR06W	U	906	--	122MOCN
P052 MOSS POINT	NESWS25T07SR06W	U	843	--	122MOCN
P053 MOSS POINT	NESWS25T07SR06W	U	145	--	121CRNL
P054 MOSS POINT	NWSES25T07SR06W	P	808	455.00	122PCGL
P055 MOSS POINT	SENWS25T07SR06W	U	840	--	122MOCN
P056 MOSS POINT	SENWS25T07SR06W	U	804	--	122MOCN
P057 MOSS POINT	SENWS25T07SR06W	U	820	--	122PCGL
P058 SOC OF ST JOHN	NENWS35T07SR06W	H	945	--	122MOCN
P059 WOODLAND NURSRY	--NES35T07SR06W	I	90.0	--	121CRNL
P060 D L WEBSTER	NENES36T07SR06W	H	247	--	121GRMF
P061 G F FERRER	NESES36T07SR06W	H	250	--	122MOCN
P062 B V D WOOLEN	NWSES36T07SR06W	U	326	--	121GRMF
P063 B V D	SWNES36T07SR06W	U	350	--	121GRMF
P064 JACKSON CO CONC	NESWS36T07SR06W	H	148	--	121CRNL
P065 M A WRIGHT	SWNES36T07SR06W	H	733	--	122MOCN
P066 BRASEL STOKES	SESWS36T07SR06W	H	336	--	122MOCN
P067 AIRPORT TOUR CT	NENWS01T08SR06W	H	300	--	121GRMF
P068 PASCAGOULA	----S07T08SR06W	P	292.	370.00	121GRMF
P069 PASCAGOULA	SWNES01T08SR06W	P	302.	470.00	121GRMF
P070 PASC ICE FREEZ	--NES07T08SR06W	Z	179	--	121CRNL
P071 PASC ICE FREEZR	SWSWS01T08SR06W	U	180	--	121CRNL

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P072 PASC ICE FREEZR	--NES07T08SR06W	N	336.	250.00	121GRMF
P073 M M FLECHAS JR	NWNWS01T08SR06W	H	900.	25.00	122PCGL
P074 WALKER SHIPBLDG	SESES05T08SR06W	U	550	60.00	122MOCN
P075 CLARK SEAFOOD	----S07T08SR06W	-	900.	--	122PCGL
P076 WALLACE QUINN	SWSWS02T08SR06W	U	94.0	--	112ALVM
P077 CLARK SEAFOOD	--NWS07T08SR06W	H	230	--	122MOCN
P078 CLARK SEAFOOD	----S02T08SR06W	H	88.0	--	111ALVM
P079 CLARK SEAFOOD	----S07T08SR06W	H	294.	--	121GRMF
P080 SMITH FISHERIES	--SWS02T08SR06W	U	539	20.00	122MOCN
P081 MISS HWY DEPT	SWSWS02T08SR06W	H	537.	--	122PCGL
P141 CONTINENTAL CAN	SWNES01T08SR06W	U	106	--	121CRNL
P142 VFW POST NO 3373	NESES01T08SR06W	U	650.	--	122PCGL
P143 VFW CLUB	NESES01T08SR06W	H	190	--	121CRNL
P146 KARL WIESENBERG	--NWS07T08SR06W	H	300	--	121GRMF
P147 CONTINENTAL CAN	SWNES01T08SR06W	U	294	--	121GRMF
P148 CARL WIESENBERG	--NWS07T08SR06W	H	350	--	121GRMF
P149 ESCATAWPA	SWSES12T07WR06W	U	1128	--	122PCGL
P152 TED BAILEY	NWSWS13T07SR06W	H	198	--	121GRMF
P153 MR NELSON	SENWS02T07SR06W	H	64.0	--	112TRCS
P154 H C COOPER	NENWS02T07SR06W	-	89.0	--	112TRCS
P156 A R COKER	NESES02T07SR06W	H	72.0	--	112ALVM
P157 PASC VENEER CRP	NESWS01T08SR06W	U	143	--	121CRNL
P161 ALTON L GOFF	SWNES09T07SR06W	H	176	--	121GRMF
P162 C STRINGFELLOW	NENWS09T07SR06W	H	308	--	121GRMF
P163 A & M RR CO	----S25T07SR06W	H	700	--	122PCGL
P164 ARDEN CUNNINGHM	NENWS12T07SR06W	H	386	--	121GRMF
P165 MOSS POINT	SWSES24T07SR06W	U	214	--	121CRNL
P169 D W CRAWLEY	NENES02T07SR06W	H	75.0	--	--
P170 J J ROGERS	SWSWS12T07SR06W	H	345	--	--
P171 M L CROWLEY	NENES02T07SR06W	H	76.0	--	--
P172 C T COOLEY	NWSWS01T07SR06W	H	367	--	--
P173 J P MCGEE	NWNWS12T07SR06W	H	336	--	--
P174 REV R E PLATT	NENES02T07SR06W	H	546	--	--
P175 JOE WILSON	NENWS15T07SR06W	H	64.0	--	--
P176 HARRY SCHAFER	NWNWS01T08SR06W	H	73.0	--	--
P177 ROBERTSON HARDW	SWSWS36T08SR06W	H	73.0	--	--
P179 JESSE LENNEP JR	SWNES12T07SR06W	H	336	--	--
P181 VERNON CROPP	NWNES09T07SR06W	H	304	--	121GRMF
P182 R W DURHAM	SWSES01T07SR06W	H	687	--	--
P184 OTIS BARNES	NESWS11T07SR06W	H	326	--	--

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P185 E N DALE	NWSES11T07SR06W	H	325.	--	121GRMF
P186 C B WILKERSON	----S01T07SR06W	H	253	--	--
P187 JOHN STUBBS	NENES02T07SR06W	H	63.0	--	--
P190 JAMES SAVAGE	NWSWS13T07SR06W	H	173	--	--
P191 JOE MC COOL	SESWS24T07SR06W	H	194	--	--
P192 JOHN DUPONT	SENES11T07SR06W	H	336	--	--
P193 LOTTIE ROSS	NESES09T07SR06W	H	356	--	--
P195 A D MORRISON	NENWS01T07SR06W	H	136	--	--
P197 SHERRY RICHARDS	SENES02T07SR06W	H	78.0	--	--
P200 C B BLACKWELL	--NWS01T07SR06W	H	374	--	--
P201 LOUIS THOMPKINS	NESWS02T07SR06S	H	68.0	--	--
P202 J W WALTON	NWSWS12T07SR06W	H	396	10.00	--
P204 A W HEAD	NWNES12T07SR06W	H	357	9.00	--
P208 J C CUNNINGHAM	SESES15T07SR06W	I	73.0	--	--
P210 LOUIS CUMBUST	NWSES02T07SR06W	H	94.0	4.00	--
P215 CHARLEY MAYS	NESWS09T07SR06W	H	78.0	4.00	--
P216 BECKHAM	NWNES09T07SR06W	H	89.0	--	--
P220 BOARD OF SUPVRS	NESES09T07SR06W	U	365	--	--
P221 BOARD OF SUPVRS	NENES09T07SR06W	-	--	--	--
P223 MOSS POINT	NENWS25T07SR06W	U	79.0	--	121CRNL
P224 MOSS POINT	NENWS25T07SR06W	U	155	--	121CRNL
P225 MOSS POINT	NENWS25T07SR06W	U	1100	90.00	122MOCN
P226 ECATAWPA	NWNWS13T07SR06W	P	345.	260.00	121GRMF
P227 JACKSON COUNTY	NENES09T07SR06W	U	347	--	122PCGL
P228 JACKSON COUNTY	SESWS12T07SR06W	U	415.	200.00	121GRMF
P229 MOSS POINT	SESWS10T07SR06W	P	890	600.00	122PCGL
P230 LAKE DRIVE-IN	NESWS07T08SR06W	I	105	--	--
P231 W R GUEST JR	S16T07SR06W	I	89.	--	121GRMF
P232 CHICK-IN-THEBOX	SESWS07T08SR06W	A	85.0	--	--
P236 HARRY L KREBS	SENWS36T07SR06W	U	94.0	--	--
P239 FRANK T LEE	SWNES10T07SR06W	I	72.0	--	--
P248 HULTZ SEAFD CO	NESWS24T07SR06W	U	200	15.00	--
P249 G R HARDY	SWNES13T07SR06W	H	189	8.00	--
P250 W W WILLIAMS	SENES13T07SR06W	H	189	--	--
P254 L A CURTIS	NENWS21T07SR06W	H	199	14.00	121GRMF
P259 ALVIN CHARLTON	NESWS01T07SR06W	H	412	10.00	121GRMF
P260 G S MC KNOWN	NESES02T07SR06W	H	257	9.00	121GRMF
P262 W V BURNS	----S01T08SR06W	H	132	--	121GRMF
P263 JOE FERRER	SESWS14T08SR06W	H	67.0	20.00	121CRNL
P270 HAROLD MONROE	SWNES02T07SR06W	H	346	--	122PCGL

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P271 ABBY GRIFFIN	NWSES12T07SR06W	H	68.0	4.00	121CRNL
P274 GEO MCDONALD	----S02T07SR06W	H	356	4.00	121GRMF
P275 O G JOHNSTON	NWSWS10T07SR06W	H	215	--	121GRMF
P276 CLYDE OLIVER	NESWS12T07SR06W	H	69.	--	121GRMF
P281 W WILLIAMS	SENWS36T07SR06W	H	70.0	4.00	121CRNL
P282 J M BUTLER	SWNWS03T07SR06W	H	220	--	121GRMF
P283 DAN GASH	SWSWS24T07SR06W	H	89.0	--	121CRNL
P284 LEROY SIMMS	----S15T07SR06W	H	68.0	5.00	121CRNL
P285 A R CREWS	NWSES12T07SR06W	H	68.	--	121CRNL
P286 ROYCE CROWLEY	NESWS13T07SR06W	H	173	--	121GRMF
P287 PAUL GARDNER	NESWS35T07SR06W	H	87.0	--	121CRNL
P288 F T LEE	SWNES23T07SR06W	H	72.0	--	121CRNL
P290 G C CALVIN	NWSWS13T07SR06W	H	189	6.00	121GRMF
P292 THOMPSON	NWNWS01T07SR06W	I	80.0	10.00	121CRNL
P300 S W SMITH	NENES11T07SR06W	H	533.	7.00	122PCGL
P301 GULF CITY FSHRS	SWNES07T08SR06W	U	319.	370.00	121GRMF
P305 MYRA WARE	NESES02T07SR06W	H	78.0	7.00	121CRNL
P306 HAYDELL	----S12T07SR06W	H	252	--	121GRMF
P309 N L BOOKER	NWSES12T07SR06W	H	609	--	122MOCN
P310 ANDY WHITEHEAD	NWNES12T07SR06W	H	174	--	121GRMF
P321 E B SMITH	NESWS26T07SR06W	H	396	8.00	122PCGL
P327 J A ROLLINS	----S15T07SR06W	H	242	10.00	121GRMF
P330 JACK LOWMAN	NWSES12T07SR06W	H	829	9.00	122PCGL
P332 ROBERT BAILEY	----S13T07SR06W	H	329	--	121GRMF
P333 BENNIE COTITA	----S01T08SR06W	H	735	--	122PCGL
P335 G H MARTIN	----S10T07SR06W	H	346	--	121GRMF
P342 ERWIN & CO	SESWS12T08SR06W	I	90.0	15.00	121CRNL
P346 JAMES W HUGHEY	NESES13T07SR06W	H	195	--	121GRMF
P347 L C NEWELL	----S12T07SR06W	H	438	8.00	121GRMF
P353 MOSS POINT HIGH	SENWS10T07SR06W	I	80.	60.00	121CRNL
P354 JAMES D CROWE	SWSES36T07SR06W	H	384	12.00	121GRMF
P355 MOSS POINT	NWNES36T07SR06W	P	827	700.00	122PCGL
P356 F R GATTI	----S08T08SR06W	-	804	75.00	122PCGL
P359 RUDY SCHILLEREF	SESWS26T07SR06W	H	423	9.00	122MOCN
P368 DARELL WADE	SENWS26T07SR06W	H	85.0	8.00	121CRNL
P369 OTIS BARNES	NESWS11T07SR07W	H	392	10.00	121GRMF
P370 PASC ICE FREEZR	--NES07T08SR06W	N	180.	40.00	121GRMF
P375 ESCATAWPA	NENES09T07SR06W	P	350	250.00	121GRMF
P376 ESCATAWPA	SWSES12T07SR06W	P	417	250.00	121GRMF
P379 LA FONT INN	--SES01T08SR06W	H	110.	--	121CRNL

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
P380 HARRY L KREBBS	--SES36T07SR06W	H	264.	20.00	121GRMF
P381 CONTINENTAL CAN CO	SESWS01T08SR06W	U	300.	--	121GRMF
P382 MOSS POINT	SWNES15T07SR06W	P	846	1000.00	122PCGL
P385 GULF CITY FISHERIES	NWS07T08SR06W	N	327.	350.00	121GRMF
P389 MOSS POINT MARINE	----S11T07SR06W	U	170.	100.00	121GRMF
P392 CLARK SEAFOOD CO	NWS07T08SR06W	N	302.	55.00	121GRMF
P393 LAFONTS INN	SENWS01T08SR06W	I	100	45.00	121GRMF
P396 GULF COAST FISHERIE	--NWS07T08SR06W	N	320.	485.00	121GRMF
P410 PASCAGOULA	----S01T08SR05W	U	--	--	--
P415 BERNICE HAVARD	NWSWS02T07SR06W	I	95.	85.	121CRNL
P416 BERNICE HAVARD	SWNWS02T07SR06W	I	95.	85.	121CRNL
P419 BURNICE HAVARD	SWNWS02T07SR06W	I	100.	85.	121CRNL
P420 BEST GLOVE	NESWS36T07SR06W	N	322.	35.	121GRMF
P425 JOHN BOWMAN	----S01T07SR06W	I	40.	8.	111ALVM
P427 MRS. FARSEMAN	----S10T07SR06W	I	70.	8.	111ALVM
P438 CLANCEYS LAWN CARE	NENES01T08SR06W	I	345	70	121GRMF
P440 LAFONT INN	SENWS01T08SR06W	H	110	--	121CRNL
P447 HERMAN CROINER	----S01T07SR06W	H	201	9	121GRMF
Q005 JACKSON COUNTY	NENES16T07SR05W	U	1204.	--	122PCGL
Q006 JACKSON COUNTY	NWNWS16T07SR05W	U	318.	--	122MOCN
Q007 GEIGY CHEM CO	SWNWS16T07SR05W	U	202	--	121GRMF
Q008 JAMES T JONES	NWSES06T07SR05W	H	39.0	--	112TRCS
Q009 RAY J DELMAS	SENWS06T07SR05W	H	258	--	122MOCN
Q010 CLYDE WELLS	SWNWS18T07SR05W	H	189	--	121GRMF
Q011 DAVID WALKER	SWNWS18T07SR05W	H	1331	--	122MOCN
Q012 MONROE HOLLAND	SWSWS18T07SR05W	U	65.0	--	112TRCS
Q013 J A COWART	NWSES19T07SR05W	H	990	30.00	122MOCN
Q014 THIOKOL CHEM	NENES19T07SR05W	Z	178.	200.00	121GRMF
Q015 THIOKOL CHEM	NENES19T07SR05W	U	250	--	121GRMF
Q016 THIOKOL CHEM	SWSWS17T07SR05W	-	967.	300.00	122PCGL
Q017 THIOKOL CHEM CORP	NENES19T07SR05W	U	182	400.00	121GRMF
Q018 THIOKOL CHEM CORP	NENES19T07SR05W	N	250	400.00	121GRMF
Q019 ZAPATA	SENES19T07SR05W	N	950.	150.00	122PCGL
Q021 STDRD PRODUCTS	NWNWS20T07SR05W	U	1001	--	122PCGL
Q022 STNRD PRODUCTS	NESES19T07SR05W	U	178	--	121CRNL
Q023 STNRD PRODUCTS	NWNWS20T07SR05W	U	183	--	121CRNL
Q024 STNDR PRODUCTS	NWNWS20T07SR05W	U	247	--	121GRMF
Q025 SMITH FISHERIES	NENWS20T07SR05W	U	200	--	121GRMF
Q026 SMITH FISHIERS	NWNWS20T07SR05W	U	130	--	121GRMF
Q027 SMITH FISHIERES	NENWS20T07SR05W	N	231	600.00	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q028 INT PAPER CO.	SWSES21T07SR05W	U	263	458.00	121GRMF
Q029 INT PAPER CO	SWSWS21T07SR05W	N	251.	293.00	121GRMF
Q030 INT PAPER CO.	SWSWS21T07SR05W	N	251	495.00	121GRMF
Q031 S H SEAMAN	SWSWS22T07SR05W	H	231	--	121GRMF
Q047 G H BYRD	SWSES27T07SR05W	H	268	--	121GRMF
Q048 HUGH L STORK	SWSES27T07SR05W	U	264	--	121GRMF
Q049 PAN AM OIL CO	SENES28T07SR05W	H	272	--	121GRMF
Q050 HENRY GREEN	NESES33T07SR05W	H	250	--	121GRMF
Q051 MOSS POINT	NESWS32T07SR05W	U	297	--	121GRMF
Q052 JACK SMITH	NWNWS33T07SR05W	H	254	--	121GRMF
Q053 J P SPENCE	SWNWS33T07SR05W	H	248	--	121GRMF
Q054 H H PING	NWNWS33T07SR05W	H	270	--	121GRMF
Q055 JAMES GAUTIER	SENWS29T07SR05W	H	202	--	122MOCN
Q056 M STRINGFELLOW	NWNES32T07SR05W	H	280	--	121GRMF
Q057 MOSS POINT	NESWS30T07SR05W	U	954	500.00	122PCGL
Q058 MOSS POINT	SWNES30T07SR05W	U	792	--	122PCGL
Q059 J J WHITEHEAD	NENWS06T08SR05W	H	272	--	121GRMF
Q060 J V HUDSON	SWNWS06T08SR05W	H	310	--	121GRMF
Q061 MAX BODDEN	SWNWS06T08SR05W	H	80.0	--	112TRCS
Q062 OLEN ENGLISH	NWNWS06T08SR05W	H	320	--	121GRMF
Q063 F M KITCHENS	NWNES06T07SR05W	H	305	--	122MOCN
Q064 T L SHERROD	--NWS06T08SR05W	H	273	--	121GRMF
Q067 RAY KREBS	NWNWS07T08SR05W	H	662	--	122MOCN
Q069 RAY KREBS	NENWS07T08SR05W	H	641	--	122MOCN
Q071 RAY KREBS	--NWS30T08SR05W	H	662.	--	122PCGL
Q074 R F KREBS	NESES07T07SR05W	H	106	--	122MOCN
Q076 GEORGE HAGUE	SWNWS05T08SR05W	H	273	--	121GRMF
Q077 S MAPLES	SWSWS05T08SR05W	U	193	--	121CRNL
Q078 C C PARKER	NWNES08T08SR05W	H	64.0	--	112TRCS
Q079 KEITH HOWELL	NWNWS08T08SR05W	H	88.0	--	112TRCS
Q081 JOE BLACKWELL	SWSWS05T08SR05W	H	120	--	121CRNL
Q083 S M WILSON	SWSES05T08SR05W	H	278	--	122MOCN
Q084 F W SHAW	SWSES05T08SR05W	H	120	--	122MOCN
Q085 IRBY TILLMAN	SWSES05T08SR05W	H	294	--	122MOCN
Q086 GEORGE MAPLES	SWSWS05T08SR05W	H	68.0	--	121CRNL
Q117 JACKSON COUNTY	SESES05T08SR05W	U	1102.	--	122PCGL
Q118 JACKSON COUNTY	SESES05T08SR05W	U	202	--	121CRNL
Q119 USGS	SESES32T07SR05W	U	157	--	121CRNL
Q120 JACKSON CO AIRP	NENWS04T08SR05W	H	1094.	--	122PCGL
Q121 NORMAN BOSARGE	NESWS22T07SR05W	H	243	15.00	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q138 READY MIX CONCT	SESWS32T07SR05W	U	294	--	121GRMF
Q139 J E CLARK	SESWS18T07SR05W	-	358.	--	121GRMF
Q141 RAY KREBS	NWNWS30T08SR05W	U	--	--	--
Q142 W A GREENOUGH	NWSWS18T07SR05W	H	157.	--	121GRMF
Q147 CITY LUM & SUPP	SESES21T07SR05W	H	116	--	--
Q149 DAIRY FRESH COR	SESES31T07SR05W	U	333	30.00	121GRMF
Q150 MAG WELDING SUP	SESES31T07SR05W	U	325	6.00	121GRMF
Q151 ZAPATA	NWNWS20T07SR05W	N	232	500.00	121GRMF
Q153 IRBY TILLMAN	SWSES05T08SR05W	H	294	--	121GRMF
Q158 THIOKOL CHEM CO	NENES19T07SR05W	N	240	320.00	121GRMF
Q159 THIOKOL CORP	SWSWS17T07SR05W	N	231	400.00	121GRMF
Q160 THIOKOL CORP	--SWS17T07SR05W	N	236	500.00	121GRMF
Q161 THIOKOL CORP	NENWS19T07SR05W	-	710	--	121GRMF
Q162 THIOKOL CORP	SWSWS17T07SR05W	U	296	--	121GRMF
Q163 THIOKOL CORP	SWSWS17T07SR05W	U	310	--	121GRMF
Q165 BRIDGES + ALEX	NWSES06T08SR05W	U	200	--	121GRMF
Q166 MOSS POINT	NESWS29T07SR05W	U	645.	400.00	122PCGL
Q175 H W PARKS	NWNWS06T08SR05W	H	288	--	122MOCN
Q177 C L WELVERTON	NWSWS33T07SR05W	-	252	--	121CRNL
Q178 CONCRET PROD CO	SESWS32T07SR05W	N	180	150.00	121CRNL
Q190 ANDREW BRANAM	SESWS33T07SR05W	H	252.	--	121GRMF
Q194 JONES & PERRY	NWNWS08T08SR05W	H	120	--	--
Q195 C B WILKERSON	NWSWS30T07SR05W	H	78.0	--	--
Q196 LEE WATKINS	NWNES05T07SR05W	H	199.	--	121GRMF
Q201 J T JONES	NENES06T07SR05W	H	236	--	121GRMF
Q203 W MAPLES	SESWS28T07SR05W	H	283.	--	121GRMF
Q204 W MAPLES	----S33T07SR05W	H	63.0	--	--
Q205 BILL HATLEY	NENES06T07SR05W	H	241	--	121GRMF
Q208 HUGH STORK	SWSWS27T07SR05W	H	293	--	121GRMF
Q214 DURWALD DUNN	SWNES32T07SR05W	H	242	--	--
Q220 GARY SMITH	SWSWS06T07SR05W	H	312	--	--
Q221 CITY LUM + SUPP	----S28T07SR05W	H	125	--	--
Q225 BLUE LAKE MANOR	SESWS06T08SR05W	U	303.	--	121GRMF
Q228 LOUIS DELMAS	SWNES30T07SR05W	I	73.0	--	--
Q232 BLUE LAKE MANOR	SESWS06T08SR05W	H	296	--	121GRMF
Q233 CHRIS LADNIER	NWNWS33T07SR05W	H	252	--	--
Q237 A C STEPHEWS	NWNWS29T07SR05W	H	118	--	--
Q238 R LOCKHART	NENWS05T07SR05W	H	162.	--	121GRMF
Q239 STAN CONT SERV	NWNES32T07SR05W	H	50.0	--	--
Q242 SMITH BAKERY WH	NENES28T07SR05W	H	84.0	--	--

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q243 GORDON	SWNWS18T07SR05W	H	147	--	--
Q244 BURT LOLLAR	SENWS30T07SR05W	I	68.0	--	--
Q248 GENE WIGENTON	NENWS08T08SR05W	H	315	--	--
Q249 JAMES SAVAGE	NWSES31T07SR05W	I	88.0	--	--
Q251 LARRY NICHOLSON	SESWS22T07SR05W	H	256	--	121GRMF
Q254 CH OF LORD JESUS	NENES06T07SR05W	H	257.	--	121GRMF
Q259 J B HAMMOND JR	SWSES22T07SR05W	H	258	--	--
Q261 REV P P PARKER	NENES06T07SR05W	H	246	--	--
Q262 A B COLLUM	NWSES04T07SR05W	H	215	--	121GRMF
Q264 B H BOSARGE	NESES22T07SR05W	H	260.	15.00	121GRMF
Q272 MOSS POINT	SWSES29T07SR05W	U	--	--	--
Q273 R E MCCONEGHEY	NESES31T07SR05W	H	428	--	122PCGL
Q276 SAM PRESLEY	NENES05T07SR05W	H	426	--	121GRMF
Q278 JOHN L RAY	NWSES18T07SR05W	H	199	--	121GRMF
Q279 LARRY NICHOLSON	SESWS22T07SR05W	H	256	--	121GRMF
Q280 TOXIE POWER	SESWS27T07SR05W	H	262	--	121GRMF
Q281 S C MCBETH	NWNES31T07SR05W	H	68.0	--	121CRNL
Q282 DAN SCHMITZ	SESWS27T07SR05W	H	271	--	121GRMF
Q284 J CUNNINGHAM	----S16T07SR05W	H	32.0	--	121CRNL
Q286 BEL-AIR ESTATES	NESES17T08SR05W	H	127	--	121CRNL
Q288 STANDARD RENTAL	NENES07T08SR05W	H	107	--	121CRNL
Q290 WALLACE CONST C	NENES07T08SR05W	H	69.0	--	121CRNL
Q292 CHU OF LORD JES	NENES06T07SR05W	H	257.	--	121GRMF
Q293 PASCAGOULA	NWNES06T08SR05W	P	326	550.00	121GRMF
Q294 BERT LOLLER	NENWS05T07SR05W	H	176	--	121GRMF
Q295 P P PARKER	NENWS06T07SR05W	H	246	--	122PCGL
Q296 A B COLLUM	NWSES04T07SR05W	H	215.	--	121GRMF
Q298 B L JONES	NWNWS33T07SR05W	H	279	--	122PCGL
Q301 JOHN MORIE	SENWS31T07SR05W	H	154	--	121GRMF
Q312 RUSSEL DEWITT	SWNES15T07SR05W	H	201	--	121GRMF
Q317 A L MAHATHY	SWSES22T07SR05W	H	106	6.00	121CRNL
Q319 ORANGE GROVE CH	SWNWS23T07SR05W	H	237	--	121GRMF
Q321 ELEY MILLER	SESWS27T07SR05W	H	271	5.00	121GRMF
Q325 THIOKOL CHEM	----S09T07SR05W	U	6026	--	125MDWY
Q325 THIOKOL CHEM	----S09T07SR05W	U	3950	--	124EOCN
Q325 THIOKOL CHEM	----S09T07SR05W	U	6370.	--	210CRCS
Q325C THIOKOL CHEM	----S09T07SR05W	--	3970	--	124EOCN
Q329 TERRY BRELAND	NENWS05T07SR05W	H	153.	--	121GRMF
Q330 VIRGIL BERNT	NWNWS06T07SR05W	H	152	--	121CRNL
Q337 L ROGERS	SWNWS30T07SR05W	H	93.0	--	121CRNL

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q339 J H KING	NWNWS05T07SR05W	H	258	--	121GRMF
Q343 C J WALKER	----S31T07SR05W	H	285	--	121GRMF
Q344 H W DAVIS	----S30T07SR05W	H	257	--	121GRMF
Q346 A J KNIGHT	----S13T07SR05W	H	242	--	121GRMF
Q347 CHAS MORELAND	NESWS07T08SR05W	H	68.0	10.00	121CRNL
Q348 NELSON MOTOR CO	SENES05T08SR05W	H	135	10.00	121GRMF
Q350 WILLIE WYNN	NWNWS33T07SR05W	H	269	15.00	121GRMF
Q356 BOB FRANKLIN	SWSES33T07SR05W	H	234	8.00	121GRMF
Q360 C C RAY	----S21T07SR05W	H	253	--	121GRMF
Q367 W A CULLA	SESWS27T07SR05W	H	260	15.00	121GRMF
Q368 MARK DELMAS	NWNWS05T07SR05W	H	269	6.00	121GRMF
Q370 A L MAHATHY JR	SWSWS22T07SR05W	H	257	15.00	121GRMF
Q371 R E RAMSEY	NWNES06T07SR05W	H	153	--	121GRMF
Q373 FRANCIS LARSEN	SENWS22T07SR05W	H	236	10.00	121GRMF
Q375 A L MAHATHY JR	SWSWS22T07SR05W	H	257	8.00	121GRMF
Q377 HIGGINS BOTTOM	SENWS31T07SR05W	H	150	8.00	121GRMF
Q380 W A STANLEY	NWNWS06T07SR05W	H	152	--	121GRMF
Q382 M R ROBINSON	SENWS29T07SR05W	H	256	8.00	121GRMF
Q385 C MCCORMACK	SWNWS23T07SR05W	H	265	10.00	121GRMF
Q386 F W FLETCHER	NWNWS23T07SR05W	H	237	10.00	121GRMF
Q390 R E RAMSEY	NENWS06T07SR05W	H	153	--	121GRMF
Q393 DONNY MASHBURN	SESES15T07SR05W	H	213	12.00	121GRMF
Q395 EQUIPMENT INC	SWSES05T08SR05W	U	308	50.00	121GRMF
Q397 REGENCY WOOD	NENWS05T08SR05W	H	--	--	--
Q398 C MCCORMACK	NWNWS23T07SR05W	H	265	10.00	121GRMF
Q401 JOE YOUNG	SWNES33T07SR05W	H	216	10.00	121GRMF
Q404 PASCAGOULA	NWNES05T08SR05W	U	--	--	--
Q406 WILLIARD RICE	NWNWS28T07SR05W	H	263.	15.00	121GRMF
Q407 PASCAGOULA	SENWS05T07SR05W	U	327	600.00	121GRMF
Q414 OTIS BARNES	----S09T07SR05W	H	396	10.00	122MOCN
Q417 MOSS POINT	SESWS30T07SR05W	P	802	577.00	122PCGL
				503	--
Q417 MOSS POINT	SESWS30T07SR05W	P	802.	577.	122MOCN
Q420 PASCAGOULA	SENWS05T08SR05W	P	346	600.00	121GRMF
Q422 INT PAPER CO	SESWS21T07SR05W	N	255	500.00	121GRMF
Q425 WILLIAM A BUSH	SWSES27T07SR05W	H	270	11.00	122MOCN
Q427 GRANVILLE JONES	NENES22T07SR05W	H	244	9.00	121GRMF
Q432 MOSS POINT	NENWS19T07SR05W	-	--	--	--
Q433 MOSS POINT TH-1	SWSWS18T07SR05W	-	--	--	--
Q434 MOSS POINT	SWNWS18T07SR05W	P	435	300.00	121GRMF

LOCAL WELL NUMBER	LAND-NET LOCATION	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	DISCHARGE (GPM)	AQUIFER CODE
Q435 MOSS POINT	SWSWS18T07SR05W	-	513	--	122PCGL
Q439A THIOKOL TEST	--SES06T07SR05W	-	1830.	--	122CTHL
Q439B THIOKOL TEST	--SES06T07SR05W	-	1980.	--	122CTHL
Q440 POLICE ACAD RANGE	NWNWS34T07SR05W	H	270.	8.	121GRMF
Q443 AIRPORT AUTHORITY	NWNWS04T08SR05W	H	258.	10.	121GRMF
Q444 HUGH L STORK	SWSES27T07SR05W	H	270.	9.	121GRMF
Q445 JACKSON CO PORT AUT	NWNWS34T07SR05W	H	279.	15.	121GRMF
Q446 MIKE VICE	NWSWS28T07SR05W	H	80.	8.	111ALVM
Q449 JAMES FLURRY	----S30T07SR05W	I	65.	8.	111ALVM
Q450 MR HAGEN	----S18T07SR05W	I	65.	12.	111ALVM
Q457 ESCATAWPA UTIL	SES06T07SR05W	-	--	--	--
Q468 VELMA RICE	NWNWS27T07SR05W	H	240.	11.	121GRMF
Q470 PASCAGOULA C C	NWSES06T08SR06W	H	120	55.00	121GRMF
Q472 GEORGE BRANNON	SESWS33T07SR05W	H	254	8	121GRMF
Q474 NATHANIEL MILLER	SESES15T07SR05W	H	240	8	121GRMF
Q476 SABA F OGLESBY	NESES04T07SR05W	H	253	10	121GRMF
Q477 MIKE SWITZER	--NWS28T07SR05W	H	270	8	121GRMF
Q478 WHITEHEAD CONST	--SWS32T07SR05W	H	275	--	121GRMF
Q485 EDNA MIZELLE	NWNWS23T07SR05W	H	240	12	121GRMF
Q487 GLEN STOKES	NENES34T07SR05W	H	267	9	121GRMF
Q492 THIOKOL INC	SESES18T07SR05W	H	222	65	121GRMF
Q494 J T McCORMICK	NENES22T07SR05W	H	240	10	121GRMF
Q495 ARNOLD E MAHATHY	SWSWS22T07SR05W	H	215	10	121GRMF
Q506 JACKSON CO	NWNES23T07SR05W	H	220	--	121GRMF
Q514 TOXEY POWELL	SWSES27T07SR05W	H	245	7	121GRMF
Q515 WILLIE MAPLES	SESWS28T07SR05W	H	247	8.5	121GRMF
Q516 ERNEST E SMITH	SESWS33T07SR05W	H	203	10	121GRMF
Q517 CHARLES M WRIGHT	SESWS33T07SR05W	H	216	7.5	121GRMF
Q520 JOHNNY WHITEHEAD	NESWS33T07SR05W	H	252	20	121GRMF
Q521 RICHARD CARROLL	NWNWS27T07SR05W	H	235	--	121GRMF
Q522 KRYSTAL BARNES	SWNWS22T07SR05W	H	210	12	121GRMF
Q529 GREEN THUMB NURSERY	SENWS06T08SR05W	I	85.	12.00	121CRNL

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
L028 CHARLES LANDER	SWNWS36T06SR06W	302842	0883242	H	660	620.00	--	20.00
L029 GRAHAM FISHCAMP	SESWS35T06SR06W	302824	0883313	H	61.0	55.00	--	--
L042 T D FURGERSON	SESWS35T06SR06W	302822	883316	H	651	641.00	--	--
L048 F D ROBERTSON	SWSWS36T06SR06W	302825	883247	H	157	152.00	--	--
L050 A C FRANKLIN	SENWS35T06SR06W	302841	883307	H	220	215.00	--	--
L053 BASTON HOMES	NESWS35T06SR06W	302842	883308	H	252	247.00	--	--
L056 JAMES D CROWE	SWNWS36T06SR06W	302837	883248	H	245	235.00	--	--
L057 DONALD WILSON	SESWS36T06SR06W	302821	883216	H	496	491.00	--	12.00
L071 YOUNG	NWSES35T06SR06W	302845	883320	H	60.0	55.00	--	--
L089 JAMES E HOWARD	----S35T06SR06W	302845	883306	H	250	240.00	--	--
L090 R E SMITH	----S35T06SR06W	302845	883306	H	255	245.00	--	--
L097 OWEN WELLS	SWNWS35T06SR06W	302840	883338	H	679	669.00	--	6.00
L106 JESSE WHITE	SWSES35T06SR06W	302825	883300	H	355	349.00	--	--
L140 STEWART FREDERICK	NESWS36T06SR06W	302840	0883224	H	126	116	126	10
M029 ELBERT WHATLEY	NWSWS32T06SR05W	302844	0883036	H	152.	147.00	--	--
M030 CLAIBORNE KOCH	SWSWS31T06SR05W	302826	883146	H	640	630.00	--	--
M032 LEE WATKINS	SESWS32T06SR05W	302826	883014	H	199	189.00	--	--
M036 GLENN BECKHAM	SWNWS32T06SR05W	302841	883042	H	151	146.00	--	--
M049 FRANK VICE	SWNWS32T06SR05W	302842	883059	H	152	147.00	--	--
M056 ROSS BECKHAN	SENWS35T06SR05W	302842	882711	H	199	194.00	--	--
M075 OLLIE VICE JR	NESES32T06SR05W	302834	0882959	H	177	172.00	--	--
M078 E ELKIN	SESWS31T07SR05W	302825	883125	H	230	225.00	--	--
M087 A E PIERCE	NWSES32T06SR05W	302839	0883012	H	238.	228.00	--	--
M090 E E DEARING	NWSWS32T06SR05W	302842	0883044	H	204	200.00	--	--
M091 LAVERT BOSARGE	NWSWS33T06SR05W	302845	882935	H	97.0	92.00	--	--
M095 MCCOLLUM	SESWS34T06SR05W	302800	882830	H	58.0	53.00	--	--
M103 M L CRIMM	SENWS33T06SR05W	302835	882912	H	211	206.00	--	--
M104 L G BISHOP	SWNWS33T06SR05W	302828	882935	H	943	933.00	--	38.00
M107 JIM RODGERS	SESES31T06SR05W	302832	0883100	H	590.	580.00	--	--
M118 FRANK EVERETT	SESWS31T06SR05W	302827	883106	H	154	149.00	--	--
M129 D H HARRISON	NWSWS31T06SR05W	302840	0883138	H	253.	243.00	--	7.00
M142 KENNETH OVERBY	SESWS34T06SR05W	302827	882809	H	152	147.00	--	8.00
M143 V W RAWLES	SENES33T06SR05W	302836	882900	H	91.0	86.00	--	--
M144 WILLIAM HESTER	NESWS34T06SR05W	302838	0882832	H	57.	53.00	--	--
M159 CARLEY DEES	SWNES31T06SR05W	302833	883130	H	573	568.00	--	--
M160 WILLIAM KIBBY	SWNWS31T06SR05W	302835	883137	H	142	138.00	--	--
M163 SYLVIA CRONIER	SWSES34T06SR05W	302830	0882805	H	1059.	1049.00	--	--
M174 JOE DRAKE	----S34T06SR05W	302825	882812	H	153	148.00	--	4.00
M183 BILLY R WILKS	SENWS31T06SR05W	302835	883110	H	400	390.00	--	25.00
M196 CLIFFORD ALLEN	SWNES33T06SR05W	302834	882917	H	237	232.00	--	--

Ref. #5

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
122PCGL	-12.00	08-01-59
110TRCS	--	--
--	-7.00	04-01-62
122MOCN	7.00	11-01-62
--	7.00	10-01-63
121GRMF	5.00	03-01-64
--	8.00	04-01-66
122MOCN	8.00	08-01-67
121CRNL	4.00	06-01-65
121GRMF	6.00	08-01-62
121GRMF	6.00	08-01-62
122MOCN	12.00	03-01-72
121GRMF	15.00	09-01-73
121GRMF	24	09-14-83
121GRMF	10.	11-01-63
122MOCN	-9.00	07-01-63
--	10.00	05-01-61
--	10.00	09-01-61
--	11.00	06-01-63
--	6.00	12-01-63
121GRMF	10.00	06-01-64
122MOCN	8.00	10-01-64
121GRMF	8.00	12-01-64
121GRMF	12.00	10-01-65
121CRNL	--	--
121CRNL	9.00	04-01-66
121GRMF	11.00	10-01-66
122PCGL	-31.00	10-01-66
122PCGL	7.00	12-01-66
121GRMF	3.00	03-01-69
121GRMF	21.00	12-01-69
121GRMF	2.00	09-01-70
121CRNL	10.00	09-01-70
121CRNL	10.00	09-01-70
122PCGL	16.00	06-01-71
121GRMF	15.00	07-01-71
122HBRG	-21.7	07-07-88
121CRNL	1.00	02-01-72
121GRMF	18.00	06-01-72
121GRMF	6.00	12-01-72

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
M213 JERRY PRICE	----S31T06SR05W	302830	883130	H	153	148.00	--	10.00
M221 JOEL HOWELL	NWSWS34T06SR05W	302835	0882837	H	162.	157.00	--	7.00
M222 JIMMY HESTER	NESWS34T06SR05W	302842	0882830	H	164	160.00	--	8.00
M223 M D OSBORNE	SWNES34T06SR05W	302839	882822	H	158	153.00	--	8.00
M235 ARCO OIL & GAS CO	SESWS33T06SR05W	302828	0882935	-	--	--	--	--
M266 JACK LOGAN	SWSES31T06SR05W	302823	0883116	H	720.	695	715	10
M294 CHARLES COON	NESWS34T06SR05W	302835	0882828	H	172	162	172	--
M320 MALCOM ROGERS	SESES31T06SR05W	302830	0883100	H	166	156	166	7
P001 J BOUNDS	NWSES01T07SR06W	302814	883235	S	450	--	--	60.00
P003 STEWARD BREADLY	NENES02T07SR06W	302816	883256	H	372	--	--	--
P004 N G PRASSENOS	NENES02T07SR06W	302810	883258	U	60.0	--	--	--
P005 C O MILLER	NENWS01T07SR06W	302815	0883213	H	373.	363.00	--	4.00
P006 GARNER ROBERTS	NESWS02T07SR06W	302742	0883324	H	966	--	--	--
P007 J G ROBERTS	SWNES02T07SR06W	302745	883323	H	90.0	--	--	--
P008 PAUL ROBERTS	NESWS02T07SR06W	302744	0883323	H	693.	673.00	--	--
P009 FRED NOLF	SWSES01T07SR06W	302739	883232	H	59.0	--	--	--
P010 MACKIE ROGERS	NENWS12T07SR06W	302723	0883221	H	616.	--	--	--
P011 NOLAND SMITH	SWNWS12T07SR06W	302714	0883242	H	532	--	--	--
P012 E H CROPP	NWSES12T07SR06W	302718	883224	H	609	--	--	--
P013 CLEO GRAHAM	NENWS12T07SR06W	302714	0883223	H	630	--	--	--
P014 J CUNNINGHAM	SENWS12T07SR06W	302710	0883232	U	328	--	--	--
P015 W O GREENOUGH	NWSES12T07SR06W	302707	883224	H	336	--	--	--
P016 A B EVANS	SWNES12T07SR06W	302701	883236	H	33.0	--	--	--
P017 J E NELSON	SENES11T07SR06W	302655	883303	H	25.0	--	--	--
P018 A H GREENOUGH	SESES11T07SR06W	302642	0883256	H	174.	164.00	--	--
P019 JOHN GILL	SESWS12T07SR06W	302647	0883218	H	343	--	--	--
P020 C J RAY	NENWS09T07SR06W	302633	883247	H	315	--	--	--
P021 E B SHERMAN	NWNES09T07SR06W	302627	0883248	H	1220.	--	--	--
P022 A LOPEZ	NWNES09T07SR06W	302627	883301	H	27.0	--	--	--
P023 E J SIMMONS	NWSWS09T07SR06W	302614	0883312	H	40.0	--	--	--
P024 ALTON L GOFF	SWNES09T07SR06W	302617	0883244	U	186	176.00	186.00	--
P025 W C EHLERS	NENES14T07SR06W	302630	883225	H	304	--	--	--
P026 CLINTON GILL	SWSES12T07SR06W	302629	883220	-	336	--	--	--
P027 HUBBARD BYRD	SENWS12T07SR06W	302631	883203	H	188	--	--	--
P029 ESCATAWPA SCHOL	NESES09T07SR06W	302616	883230	H	921	--	--	50.00
P030 BAILEY ANDERSON	NESES09T07SR06W	302616	883223	H	306	--	--	--
P031 G R HARDY	SWNES13T07SR06W	302604	883230	H	189	--	--	--
P032 GEO MILLENDER	SWSWS13T07SR06W	302604	883215	U	60.0	--	--	--
P033 W W WILLIAMS	SESES13T07SR06W	302558	883203	H	750	--	--	--
P034 GEORGE PLANER	SENWS09T07SR06W	302610	0883247	H	35.0	--	--	--

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
121GRMF	2.00	04-01-73
121GRMF	.00	05-01-75
121GRMF	.00	04-01-75
122MOCN	.00	05-01-75
--	--	--
122PCGL	6	05-18-90
121GRMF	10	10-18-84
121GRMF	20	11-01-78
122MOCN	-5.00	05-01-59
122MOCN	-2.00	12-01-59
--	10.00	01-01-59
121GRMF	-12.00	03-01-59
122PCGL	--	01-01-58
112ALVM	5.00	02-01-59
122PCGL	-10.00	08-01-60
112ALVM	7.00	08-01-58
121GRMF	4.00	12-01-59
122PCGL	-6.00	11-01-60
122MOCN	4.00	10-01-59
122PCGL	-2.00	07-01-58
121GRMF	73.00	10-27-82
122MOCN	4.00	08-01-59
112ALVM	6.00	02-01-59
112ALVM	3.00	02-01-59
121CRNL	10.00	05-01-59
121GRMF	4.00	11-01-58
122MOCN	3.00	04-01-60
122PCGL	-41.00	05-01-59
112ALVM	6.00	02-01-59
111ALVM	12.00	02-01-59
121GRMF	14.00	05-28-59
122MOCN	4.00	07-01-58
122MOCN	--	--
122MOCN	8.00	06-01-59
122PCGL	30.00	01-01-30
122MOCN	4.00	04-01-60
122MOCN	10.00	09-01-60
--	--	--
122MOCN	-13.00	09-01-39
111ALVM	4.00	08-01-58

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
P041 HOLTZ SEAFOOD C	NWNWS24T07SR06W	302533	0883242	H	206	--	--	--
P042 C B FARRIOR	NWSES24T07SR06W	302525	883236	-	279	--	--	--
P043 UNKNOWN	NENWS10T07SR06W	302502	883331	H	790	--	--	50.00
P044 DR CALHOUN	NENES10T07SR06W	302508	0883307	H	793	--	--	--
P045 CENT ARTES WELL	NENES10T07SR06W	302451	0883259	U	806	--	--	150.00
P046 MCKINNIS FLORST	SESES23T07SR06W	302456	883301	U	84.0	--	--	--
P047 MOSS POINT	NENWS25T07SR06W	302448	883216	U	96.0	76.00	--	--
P048 MOSS POINT	NENWS25T07SR06W	302448	0883216	U	1100	--	--	--
P049 MOSS POINT	NENWS25T07SR06W	302448	0883216	U	1807	--	--	--
P050 MOSS POINT	NENWS25T07SR06W	302448	883216	U	1165	--	--	--
P051 MOSS POINT	NWSWS25T07SR06W	302432	0883210	U	906	--	--	--
P052 MOSS POINT	NESWS25T07SR06W	302432	883211	U	843	--	--	--
P053 MOSS POINT	NESWS25T07SR06W	302432	0883209	U	145	--	--	--
P054 MOSS POINT	NWSES25T07SR06W	302427	0883211	P	808	768.00	--	455.00
P055 MOSS POINT	SENWS25T07SR06W	302422	0883212	U	840	--	--	--
P056 MOSS POINT	SENWS25T07SR06W	302422	883212	U	804	--	--	--
P057 MOSS POINT	SENWS25T07SR06W	302422	0883212	U	820	760.00	--	--
P058 SOC OF ST JOHN	NENWS35T07SR06W	302351	883312	H	945	--	--	--
P059 WOODLAND NURSRY	--NES35T07SR06W	302354	0883254	I	90.0	--	--	--
P060 D L WEBSTER	NENES36T07SR06W	302345	0883202	H	247	--	--	--
P061 G F FERRER	NESES36T07SR06W	302345	883202	H	250	--	--	--
P062 B V D WOOLEN	NWSES36T07SR06W	302328	0883220	U	326	--	--	--
P063 B V D	SWNES36T07SR06W	302328	883220	U	350	--	--	--
P064 JACKSON CO CONC	NESWS36T07SR06W	302332	883215	H	148	--	--	--
P065 M A WRIGHT	SWNES36T07SR06W	302335	883229	H	733	--	--	--
P066 BRASEL STOKES	SESWS36T07SR06W	302311	883208	H	336	--	--	--
P067 AIRPORT TOUR CT	NENWS01T08SR06W	302253	0883212	H	300	--	--	--
P068 PASCAGOULA	----S07T08SR06W	302243	0883255	P	292.	282.00	--	370.00
P069 PASCAGOULA	SWNES01T08SR06W	302241	0883217	P	302.	222.00	302.00	470.00
P070 PASC ICE FREEZ	--NES07T08SR06W	302216	0883312	Z	179	129.00	--	--
P071 PASC ICE FREEZR	SWSWS01T08SR06W	302221	883309	U	180	170.00	--	--
P072 PASC ICE FREEZR	--NES07T08SR06W	302217	0883312	N	336.	256.00	--	250.00
P073 M M FLECHAS JR	NWNWS01T08SR06W	302248	0883335	H	900.	--	--	25.00
P074 WALKER SHIPBLDG	SESES05T08SR06W	302223	0883334	U	550	--	--	60.00
P075 CLARK SEAFOOD	----S07T08SR06W	302237	883402	-	900.	--	--	--
P076 WALLACE QUINN	SWSWS02T08SR06W	302237	883402	U	94.0	--	--	--
P077 CLARK SEAFOOD	--NWS07T08SR06W	302237	0883402	H	230	--	--	--
P078 CLARK SEAFOOD	----S02T08SR06W	302237	0883402	H	88.0	--	--	--
P079 CLARK SEAFOOD	----S07T08SR06W	302236	0883404	H	294.	--	--	--
P080 SMITH FISHERIES	--SWS02T08SR06W	302231	883353	U	539	472.00	--	20.00

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
122MOCN	--	--
121GRMF	4.00	01-01-49
122MOCN	-18.00	05-01-39
122PCGL	-14.00	05-01-39
122PCGL	48.52	10-28-82
112ALVM	23.00	10-01-60
121CRNL	--	--
122PCGL	-23.00	05-01-39
122MOCN	--	--
122MOCN	-23.00	05-01-39
122MOCN	6.00	01-01-50
122MOCN	-7.00	06-01-39
121CRNL	23.00	04-01-60
122PCGL	125.00	10-20-82
122MOCN	-16.00	05-01-39
122MOCN	-15.00	05-01-39
122PCGL	-16.00	05-01-39
122MOCN	-20.00	05-01-39
121CRNL	--	--
121GRMF	-24.00	09-01-58
122MOCN	42.00	01-01-58
121GRMF	45.00	01-01-59
121GRMF	50.00	03-01-60
121CRNL	18.00	05-01-60
122MOCN	-16.00	05-01-39
122MOCN	33.00	01-01-58
121GRMF	47.00	01-01-59
121GRMF	87.00	10-20-82
121GRMF	99.73	10-28-82
121CRNL	17.96	10-28-82
121CRNL	15.00	01-01-60
121GRMF	40.00	10-01-60
122PCGL	20.00	08-01-41
122MOCN	-23.00	05-01-39
122PCGL	-10.00	08-01-59
112ALVM	30.00	06-01-59
122MOCN	--	--
111ALVM	-5.00	05-01-60
121GRMF	36.00	07-01-60
122MOCN	-19.00	07-01-52

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
P081 MISS HWY DEPT	SWSWS02T08SR06W	302216	0883332	H	537.	--	--	--
P105 ARNOLD WALKER	NWNWS05T08SR06W	302200	0883407	U	320	--	--	--
P106 ARNOLD WALKER	----S07T08SR06W	302217	883355	U	350	--	--	--
P107 GULF MARINE WAY	----S07T08SR06W	302217	0883355	U	180	--	--	--
P109 PASCAGOULA	NWNWS05T08SR06W	302205	0883340	U	875	--	--	300.00
P110 PASCAGOULA	NWNWS05T08SR06W	302205	883340	U	800	--	--	--
P111 ALPO	NWNWS05T08SR06W	302205	0883340	U	1466	--	--	--
P112 PASCAGOULA	NWNWS05T08SR06W	302205	0883340	U	800	--	--	19.00
P113 PASCAGOULA	NWNWS05T08SR06W	302205	0883340	U	388	308.00	--	--
P115 ALPO NO 1	--NWS05T08SR06W	302201	0883344	N	316.	266.00	--	674.00
P116 SOUTHERN LAUNDY	NWNWS05T08SR06W	302215	883335	U	770	--	--	--
P117 PASCAGOULA ICE	NWNWS05T08SR06W	302203	883347	U	306	256.00	--	--
P118 T T JUSTICE	--NES05T08SR06W	302203	883332	U	182	--	--	--
P139 W D PELEN	SENWS07T08SR06W	302155	0883310	A	195	--	--	--
P141 CONTINENTAL CAN	SWNES01T08SR06W	302217	0883218	U	106	--	--	--
P142 VFW POST NO 3373	NESES01T08SR06W	302234	0883152	U	650.	625.00	--	--
P143 VFW CLUB	NESES01T08SR06W	302234	0883152	H	190	--	--	--
P144 E L BRANTLEY	----S07T08SR06W	302149	0883324	H	160	--	--	--
P146 KARL WIESENBERG	--NWS07T08SR06W	302630	0883250	H	300	270.00	--	--
P147 CONTINENTAL CAN	SWNES01T08SR06W	302218	0883217	U	294	--	--	--
P148 CARL WIESENBERG	--NWS07T08SR06W	302249	0883329	H	350	--	--	--
P149 ESCATAWPA	SWSES12T07WR06W	302639	0883215	U	1128	--	--	--
P152 TED BAILEY	NWSWS13T07SR06W	302559	0883213	H	198	--	--	--
P153 MR NELSON	SENWS02T07SR06W	302748	883317	H	64.0	--	--	--
P154 H C COOPER	NENWS02T07SR06W	302814	883315	-	89.0	--	--	--
P156 A R COKER	NESES02T07SR06W	302801	883258	H	72.0	--	--	--
P157 PASC VENEER CRP	NESWS01T08SR06W	302248	883253	U	143	--	--	--
P161 ALTON L GOFF	SWNES09T07SR06W	302617	0883244	H	176	--	--	--
P162 C STRINGFELLOW	NENWS09T07SR06W	302634	0883255	H	308	--	--	--
P163 A & M RR CO	----S25T07SR06W	302446	883209	H	700	--	--	--
P164 ARDEN CUNNINGHM	NENWS12T07SR06W	302724	0883232	H	386	--	--	--
P165 MOSS POINT	SWSES24T07SR06W	302449	0883216	U	214	--	--	--
P166 ALPO	NWNWS05T08SR06W	302156	0883346	N	326	276.00	--	600.00
P169 D W CRAWLEY	NENES02T07SR06W	302816	883254	H	75.0	70.00	--	--
P170 J J ROGERS	SWSWS12T07SR06W	302640	883247	H	345	335.00	--	--
P171 M L CROWLEY	NENES02T07SR06W	302816	883255	H	76.0	71.00	--	--
P172 C T COOLEY	NWSWS01T07SR06W	302750	883249	H	367	357.00	--	--
P173 J P MCGEE	NWNWS12T07SR06W	302719	883250	H	336	326.00	--	--
P174 REV R E PLATT	NENES02T07SR06W	302815	883255	H	546	536.00	--	--
P175 JOE WILSON	NENWS15T07SR06W	302439	883243	H	64.0	59.00	--	--

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
122PCGL	-5.00	04-01-54
121GRMF	32.00	05-01-59
122MOCN	--	--
121CRNL	11.00	01-01-59
122PCGL	-24.00	09-01-19
122PCGL	-43.00	09-01-19
122PCGL	--	--
122PCGL	--	--
121GRMF	66.58	10-28-82
121GRMF	58.00	04-25-85
122PCGL	-16.00	08-01-44
121GRMF	52.00	04-01-60
122MOCN	12.00	04-01-60
121CRNL	4.00	01-01-53
121CRNL	17.00	08-01-60
122PCGL	168.27	10-27-82
121CRNL	17.00	07-01-60
121CRNL	17.00	09-01-61
121GRMF	43.00	01-01-62
121GRMF	58.00	10-01-61
121GRMF	42.00	02-01-62
122PCGL	--	--
121GRMF	15.00	08-01-58
112TRCS	--	--
112TRCS	--	--
112ALVM	--	--
121CRNL	--	--
121GRMF	10.00	05-01-59
121GRMF	--	--
122PCGL	-20.00	09-01-19
121GRMF	.00	09-01-59
121CRNL	--	--
121GRMF	68.00	10-29-82
--	6.00	04-01-61
--	6.00	04-01-61
--	--	--
--	-1.00	04-01-61
--	2.00	04-01-61
--	-6.00	04-01-61
--	12.00	05-01-61

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
P176 HARRY SCHAFER	NWNWS01T08SR06W	302259	883243	H	73.0	63.00	--	--
P177 ROBERTSON HARDW	SWSWS36T08SR06W	302309	883238	H	73.0	63.00	--	--
P179 JESSE LENNEP JR	SWNES12T07SR06W	302702	883237	H	336	326.00	--	--
P181 VERNON CROPP	NWNES09T07SR06W	302630	883250	H	304	294.00	304.00	--
P182 R W DURHAM	SWSES01T07SR06W	302749	883230	H	687	672.00	--	--
P184 OTIS BARNES	NESWS11T07SR06W	302701	883311	H	326	316.00	--	--
P185 E N DALE	NWSES11T07SR06W	302654	883311	H	325.	315.00	--	--
P186 C B WILKERSON	----S01T07SR06W	302804	883220	H	253	243.00	--	--
P187 JOHN STUBBS	NENES02T07SR06W	302815	883254	H	63.0	58.00	--	--
P190 JAMES SAVAGE	NWSWS13T07SR06W	302620	883226	H	173	163.00	--	--
P191 JOE MC COOL	SESWS24T07SR06W	302449	883217	H	194	184.00	--	--
P192 JOHN DUPONT	SENES11T07SR06W	302657	883256	H	336	326.00	--	--
P193 LOTTIE ROSS	NESES09T07SR06W	302615	883248	H	356	346.00	--	--
P195 A D MORRISON	NENWS01T07SR06W	302818	883219	H	136	126.00	--	--
P197 SHERRY RICHARDS	SENES02T07SR06W	302744	883257	H	78.0	73.00	--	--
P200 C B BLACKWELL	--NWS01T07SR06W	302816	883245	H	374	368.00	--	--
P201 LOUIS THOMPKINS	NESWS02T07SR06S	302745	883322	H	68.0	63.00	--	--
P202 J W WALTON	NWSWS12T07SR06W	302708	883247	H	396	386.00	--	10.00
P204 A W HEAD	NWNES12T07SR06W	302725	883227	H	357	347.00	--	9.00
P208 J C CUNNINGHAM	SESES15T07SR06W	302342	883304	I	73.0	68.00	--	--
P210 LOUIS CUMBUST	NWSES02T07SR06W	302749	883318	H	94.0	89.00	--	4.00
P215 CHARLEY MAYS	NESWS09T07SR06W	302615	883249	H	78.0	73.00	--	4.00
P216 BECKHAM	NWNES09T07SR06W	302631	883251	H	89.0	84.00	--	--
P220 BOARD OF SUPVRS	NESES09T07SR06W	302619	883226	U	365	--	--	--
P221 BOARD OF SUPVRS	NENES09T07SR06W	302634	0883233	-	--	--	--	--
P223 MOSS POINT	NENWS25T07SR06W	302449	883217	U	79.0	--	--	--
P224 MOSS POINT	NENWS25T07SR06W	302449	883217	U	155	--	--	--
P225 MOSS POINT	NENWS25T07SR06W	302449	883217	U	1100	--	--	90.00
P226 ECATAWPA	NWNWS13T07SR06W	302627	883224	P	345.	323.00	--	260.00
P227 JACKSON COUNTY	NENES09T07SR06W	302630	0883229	U	347	325.00	--	--
P228 JACKSON COUNTY	SESWS12T07SR06W	302645	883228	U	415.	357.00	--	200.00
P229 MOSS POINT	SESWS10T07SR06W	302443	0883337	P	890	840.00	--	600.00
P230 LAKE DRIVE-IN	NESWS07T08SR06W	302235	883339	I	105	100.00	--	--
P231 W R GUEST JR	S16T07SR06W	302338	0883341	I	89.	79.00	--	--
P232 CHICK-IN-THEBOX	SESWS07T08SR06W	302234	883339	A	85.0	80.00	--	--
P236 HARRY L KREBS	SENWS36T07SR06W	302328	883212	U	94.0	84.00	--	--
P239 FRANK T LEE	SWNES10T07SR06W	302507	883330	I	72.0	67.00	--	--
P248 HULTZ SEAFD CO	NESWS24T07SR06W	302518	883225	U	200	180.00	--	15.00
P249 G R HARDY	SWNES13T07SR06W	302609	883212	H	189	184.00	--	8.00
P250 W W WILLIAMS	SENES13T07SR06W	302614	883205	H	189	--	--	--

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
--	15.00	05-01-61
--	10.00	06-01-61
--	4.00	07-01-61
121GRMF	8.00	09-14-61
--	-7.00	09-01-61
--	4.00	10-01-61
121GRMF	4.00	10-01-61
--	3.00	11-01-61
--	13.00	01-01-62
--	12.00	03-01-62
--	8.00	03-01-62
--	4.00	04-01-62
--	8.00	04-01-62
--	10.00	06-01-62
--	14.00	08-01-62
--	2.00	11-01-62
--	11.00	02-01-63
--	2.00	03-01-63
--	-2.00	05-01-63
--	20.00	08-01-63
--	2.00	08-01-63
--	11.00	12-01-63
--	10.00	12-01-63
--	--	--
--	--	--
121CRNL	--	--
121CRNL	--	--
122MOCN	--	--
121GRMF	16.00	10-01-65
122PCGL	18.00	10-01-65
121GRMF	20.00	09-01-64
122PCGL	124.48	06-21-88
--	14.00	04-01-64
121GRMF	18.00	05-01-64
--	15.00	06-01-64
--	12.00	04-01-66
--	15.00	05-01-66
--	13.00	09-01-67
--	10.00	09-01-60
--	10.00	09-01-60

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
P254 L A CURTIS	NENWS21T07SR06W	302545	883520	H	199	189.00	--	14.00
P257 JOHN DAILEY	SWSES21T07SR06W	302515	883555	H	108	105.00	--	10.00
P259 ALVIN CHARLTON	NESWS01T07SR06W	302743	0883229	H	412	404.00	--	10.00
P260 G S MC KNOWN	NESES02T07SR06W	302800	883315	H	257	249.00	--	9.00
P262 W V BURNS	----S01T08SR06W	302247	0883214	H	132	126.00	--	--
P263 JOE FERRER	SESWS14T08SR06W	302215	883250	H	67.0	63.00	--	20.00
P270 HAROLD MONROE	SWNES02T07SR06W	302748	883318	H	346	341.00	--	--
P271 ABBY GRIFFIN	NWSES12T07SR06W	302715	883231	H	68.0	63.00	--	4.00
P274 GEO MCDONALD	----S02T07SR06W	302748	883318	H	356	252.00	--	4.00
P275 O G JOHNSTON	NWSWS10T07SR06W	302710	883446	H	215	210.00	--	--
P276 CLYDE OLIVER	NESWS12T07SR06W	302650	0883234	H	69.	64.00	--	--
P277 J C RUNNELS	NENES02T08SR06W	302310	883605	H	88.0	84.00	--	24.00
P281 W WILLIAMS	SENWS36T07SR06W	302320	883215	H	70.0	65.00	--	4.00
P282 J M BUTLER	SWNWS03T07SR06W	302315	883420	H	220	215.00	--	--
P283 DAN GASH	SWSWS24T07SR06W	302512	883228	H	89.0	84.00	--	--
P284 LEROY SIMMS	----S15T07SR06W	302440	883240	H	68.0	63.00	--	5.00
P285 A R CREWS	NWSES12T07SR06W	302657	0883220	H	68.	63.00	--	--
P286 ROYCE CROWLEY	NESWS13T07SR06W	302618	883227	H	173	168.00	--	--
P287 PAUL GARDNER	NESWS35T07SR06W	302358	883300	H	87.0	82.00	--	--
P288 F T LEE	SWNES23T07SR06W	302520	883330	H	72.0	67.00	--	--
P290 G C CALVIN	NWSWS13T07SR06W	302628	883220	H	189	184.00	--	6.00
P292 THOMPSON	NWNWS01T07SR06W	302803	0883229	I	80.0	75.00	--	10.00
P297 JAS TAYLOR	SWSWS02T07SR06W	302730	883450	H	359	354.00	--	6.00
P300 S W SMITH	NENES11T07SR06W	302712	0883254	H	533.	528.00	--	7.00
P301 GULF CITY FSHRS	SWNES07T08SR06W	302247	0883334	U	319.	243.00	--	370.00
P305 MYRA WARE	NESES02T07SR06W	302805	883303	H	78.0	74.00	--	7.00
P306 HAYDELL	----S12T07SR06W	302648	883210	H	252	242.00	--	--
P309 N L BOOKER	NWSES12T07SR06W	302712	883218	H	609	589.00	--	--
P310 ANDY WHITEHEAD	NWNES12T07SR06W	302724	883303	H	174	169.00	--	--
P321 E B SMITH	NESWS26T07SR06W	302421	883303	H	396	386.00	--	8.00
P327 J A ROLLINS	----S15T07SR06W	302430	0883322	H	242	237.00	--	10.00
P328 R L BARLOW	S07T08SR06W	302151	0883232	H	310.	300.00	--	8.00
P329 WILLIAM DORSEY	S07T08SR06W	302151	0883232	H	735.	725.00	--	15.00
P330 JACK LOWMAN	NWSES12T07SR06W	302717	883230	H	829	819.00	--	9.00
P332 ROBERT BAILEY	----S13T07SR06W	302600	883300	H	329	319.00	--	--
P333 BENNIE COTITA	----S01T08SR06W	302230	883212	H	735	705.00	--	--
P335 G H MARTIN	----S10T07SR06W	302659	883416	H	346	336.00	--	--
P342 ERWIN & CO	SESWS12T08SR06W	302651	883219	I	90.0	80.00	--	15.00
P346 JAMES W HUGHEY	NESES13T07SR06W	302615	883240	H	195	190.00	--	--
P347 L C NEWELL	----S12T07SR06W	302647	883200	H	438	428.00	--	8.00

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
121GRMF	10.00	04-01-68
121CRNL	4.00	04-01-68
121GRMF	5.00	08-01-64
121GRMF	5.00	09-01-64
121GRMF	9.00	08-01-60
121CRNL	10.00	08-01-68
122PCGL	-2.00	10-01-64
121CRNL	12.00	07-01-65
121GRMF	-4.00	06-01-65
121GRMF	19.00	05-01-65
121GRMF	10.00	08-01-65
121CRNL	--	--
121CRNL	12.00	10-01-65
121GRMF	5.00	10-01-65
121CRNL	19.00	06-01-64
121CRNL	14.00	06-01-64
121CRNL	10.00	06-01-64
121GRMF	13.00	07-01-64
121CRNL	20.00	07-01-64
121CRNL	15.00	04-01-66
121GRMF	12.00	04-01-63
121CRNL	22.00	07-01-64
122PCGL	1.00	01-01-67
122PCGL	-8.00	04-01-67
121GRMF	44.00	06-01-67
121CRNL	11.00	09-01-67
121GRMF	6.00	01-01-61
122MOCN	-4.00	10-01-69
121GRMF	14.00	10-01-69
122PCGL	19.00	07-01-70
121GRMF	25.00	12-01-64
121GRMF	19.00	11-01-70
122PCGL	22.00	12-01-70
122PCGL	21.00	01-01-71
121GRMF	6.00	11-01-61
122PCGL	-3.00	04-01-62
121GRMF	7.00	09-01-62
121CRNL	20.00	03-01-71
121GRMF	--	--
121GRMF	38.00	10-01-71

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
P353 MOSS POINT HIGH	SENWS10T07SR06W	302453	0883318	I	80.	60.00	--	60.00
P354 JAMES D CROWE	SWSES36T07SR06W	302310	883220	H	384	379.00	--	12.00
P355 MOSS POINT	NWNES36T07SR06W	302350	0883204	P	827	767.00	--	700.00
P356 F R GATTI	----S08T08SR06W	302800	883255	-	804	784.00	--	75.00
P357 JOHN COPELAND	SENWS09T08SR06W	302220	883530	H	180	170.00	--	9.00
P359 RUDY SCHILLEREF	SESWS26T07SR06W	302400	883316	H	423	413.00	--	9.00
P364 ROBERTS HOMES	SWSWS04T08SR06W	302230	883530	H	285	275.00	--	10.00
P365 JACOB THOMAS	SENES03T08SR06W	302215	883415	H	285	275.00	--	--
P368 DARELL WADE	SENWS26T07SR06W	302415	883304	H	85.0	80.00	--	8.00
P369 OTIS BARNES	NESWS11T07SR07W	302703	0883317	H	392	382.00	--	10.00
P370 PASC ICE FREEZR	--NES07T08SR06W	302219	883310	N	180.	130.00	180.00	40.00
P374 BOAT CITY MARINA	----S07T08SR06W	302300	0883610	C	409.	389.00	409.00	90.00
P375 ESCATAWPA	NENES09T07SR06W	302627	0883232	P	350	325.00	350.00	250.00
P376 ESCATAWPA	SWSES12T07SR06W	302645	0883215	P	417	367.00	417.00	250.00
P379 LA FONT INN	--SES01T08SR06W	302224	0883209	H	110.	100.00	110.00	--
P380 HARRY L KREBBS	--SES36T07SR06W	302309	0883208	H	264.	254.00	264.00	20.00
P381 CONTINENTAL CAN CO	SESWS01T08SR06W	302214	0883223	U	300.	--	--	--
P382 MOSS POINT	SWNES15T07SR06W	302426	0883250	P	846	766.00	846.00	1000.00
P385 GULF CITY FISHERIES	NWS07T08SR06W	302246	0883334	N	327.	267.00	327.00	350.00
P389 MOSS POINT MARINE	----S11T07SR06W	302724	0883312	U	170.	160.00	170.00	100.00
P390 HUDSON SHIPYARD	----S07T08SR06W	302210	0883358	N	300	280.00	300.00	160.00
P392 CLARK SEAFOOD CO	NWS07T08SR06W	302236	0883402	N	302.	282.00	302.00	55.00
P393 LAFONTS INN	SENWS01T08SR06W	302227	0883212	I	100	90.00	100.00	45.00
P396 GULF COAST FISHERIE	--NWS07T08SR06W	302247	0883332	N	320.	260.00	320.00	485.00
P410 PASCAGOULA	----S01T08SR05W	302242	0883202	U	--	--	--	--
P415 BERNICE HAVARD	NWSWS02T07SR06W	302742	0883325	I	95.	75.	95.	85.
P416 BERNICE HAVARD	SWNWS02T07SR06W	302740	0883310	I	95.	75.	95.	85.
P418 M & M PIPING	NWNWS07T08SR06W	302220	0883401	N	300.	260.	300.	85.
P419 BURNICE HAVARD	SWNWS02T07SR06W	302806	0883327	I	100.	80.	100.	85.
P420 BEST GLOVE	NESWS36T07SR06W	302325	0883220	N	322.	302.	322.	35.
P421 CONCRETE PRODUCTS	--NWS05T08SR06W	302152	0883411	N	300.	270.	300.	225.
P422 U S FORESTRY	----S05T08SR06W	302148	0883407	N	290.	280.	290.	12.
P425 JOHN BOWMAN	----S01T07SR06W	302453	0883246	I	40.	35.	40.	8.
P427 MRS. FARSEMAN	----S10T07SR06W	302438	0883301	I	70.	65.	70.	8.
P438 CLANCEYS LAWN CARE	NENES01T08SR06W	302224	0883158	I	345	315	345	70
P440 LAFONT INN	SENWS01T08SR06W	302226	0883212	H	110	100	110	--
P447 HERMAN CROINER	----S01T07SR06W	302737	0883203	H	201	191	201	9
Q005 JACKSON COUNTY	NENES16T07SR05W	302629	0882854	U	1204.	--	--	--
Q006 JACKSON COUNTY	NWNWS16T07SR05W	302633	0882944	U	318.	--	--	--
Q007 GEIGY CHEM CO	SWNWS16T07SR05W	302600	0882939	U	202	--	--	--

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
121CRNL	20.00	02-01-72
121GRMF	12.00	11-01-72
122PCGL	132.00	10-19-82
122PCGL	-25.00	03-01-50
121GRMF	27.00	06-01-73
122MOCN	35.00	02-01-73
121GRMF	15.00	11-01-73
121GRMF	12.00	11-01-73
121CRNL	20.00	02-01-74
121GRMF	48.00	05-01-74
121GRMF	18.00	03-01-75
121GRMF	29.00	08-12-77
121GRMF	59.00	10-27-82
121GRMF	131.00	10-27-82
121CRNL	20.00	08-29-75
121GRMF	101.00	09-14-77
121GRMF	96.00	08-10-77
122PCGL	135.00	10-20-82
121GRMF	64.00	12-11-78
121GRMF	15.00	11-10-80
121GRMF	27.00	06-18-81
121GRMF	50.00	05-12-82
121GRMF	20.00	05-21-82
121GRMF	65.00	10-15-82
--	--	--
121CRNL	12.	12-03-85
121CRNL	12.	12-03-85
121GRMF	46.	07-11-86
121CRNL	15.	07-28-86
121GRMF	75.	05-28-87
121GRMF	25.	11-13-87
121GRMF	40.	03-02-88
111ALVM	10.	06-02-88
111ALVM	20.	07-12-88
121GRMF	90	08-06-92
121CRNL	20	08-27-75
121GRMF	75	10-26-84
122PCGL	--	--
122MOCN	--	--
121GRMF	7.00	10-01-57

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
Q008 JAMES T JONES	NWSES06T07SR05W	302759	883124	H	39.0	36.00	--	--
Q009 RAY J DELMAS	SENWS06T07SR05W	302752	883100	H	258	--	--	--
Q010 CLYDE WELLS	SWNWS18T07SR05W	302602	883146	H	189	179.00	--	--
Q011 DAVID WALKER	SWNWS18T07SR05W	302553	883145	H	1331	1289.00	--	--
Q012 MONROE HOLLAND	SWSWS18T07SR05W	302550	883139	U	65.0	--	--	--
Q013 J A COWART	NWSES19T07SR05W	302522	883126	H	990	970.00	--	30.00
Q014 THIOKOL CHEM	NENES19T07SR05W	302535	0883056	Z	178.	138.00	--	200.00
Q015 THIOKOL CHEM	NENES19T07SR05W	302535	0883056	U	250	--	--	--
Q016 THIOKOL CHEM	SWSWS17T07SR05W	302623	0883111	-	967.	907.00	--	300.00
Q017 THIOKOL CHEM CORP	NENES19T07SR05W	302535	883056	U	182	142.00	--	400.00
Q018 THIOKOL CHEM CORP	NENES19T07SR05W	302535	0883056	N	250	210.00	--	400.00
Q019 ZAPATA	SENES19T07SR05W	302526	0883050	N	950.	904.00	--	150.00
Q021 STDRD PRODUCTS	NWNWS20T07SR05W	302540	883040	U	1001	981.00	1001.00	--
Q022 STNRD PRODUCTS	NESES19T07SR05W	302540	883040	U	178	--	--	--
Q023 STNRD PRODUCTS	NWNWS20T07SR05W	302540	883040	U	183	153.00	--	--
Q024 STNDR PRODUCTS	NWNWS20T07SR05W	302540	883040	U	247	--	--	--
Q025 SMITH FISHERIES	NENWS20T07SR05W	302535	0883035	U	200	--	--	--
Q026 SMITH FISHIERS	NWNWS20T07SR05W	302535	0883035	U	130	--	--	--
Q027 SMITH FISHIERES	NENWS20T07SR05W	302535	0883035	N	231	181.00	--	600.00
Q028 INT PAPER CO.	SWSES21T07SR05W	302452	882934	U	263	233.00	--	458.00
Q029 INT PAPER CO	SWSWS21T07SR05W	302455	0882938	N	251.	216.00	--	293.00
Q030 INT PAPER CO.	SWSWS21T07SR05W	302451	0882929	N	251	216.00	--	495.00
Q031 S H SEAMAN	SWSWS22T07SR05W	302452	0882842	H	231	221.00	--	--
Q032 C J MOZINGO	NENWS23T07SR05W	302532	0882717	H	241	--	--	--
Q033 ALVIN CARROLL	NWNWS23T07SR05W	302538	0882732	H	231	--	--	--
Q036 MISS ST SCALES	SESES23T07SR05W	302523	0882719	H	221	211.00	--	5.00
Q037 MISS ST SCALES	NWSES23T07SR05W	302523	882719	U	14.0	--	--	--
Q038 C A GREEN	SWNES23T07SR05W	302517	0882726	H	30.0	--	--	--
Q046 DONALD GREGORY	SWSWS26T07SR05W	302359	0882739	H	21.0	--	--	--
Q047 G H BYRD	SWSES27T07SR05W	302357	0882758	H	268	253.00	--	--
Q048 HUGH L STORK	SWSES27T07SR05W	302400	0882830	U	264	251.00	--	--
Q049 PAN AM OIL CO	SENES28T07SR05W	302425	0882858	H	272	262.00	--	--
Q050 HENRY GREEN	NESES33T07SR05W	302344	882916	H	250	--	--	--
Q051 MOSS POINT	NESWS32T07SR05W	302339	0883019	U	297	--	--	--
Q052 JACK SMITH	NWNWS33T07SR05W	302354	0882947	H	254	244.00	--	--
Q053 J P SPENCE	SWNWS33T07SR05W	302337	0882943	H	248	228.00	--	--
Q054 H H PING	NWNWS33T07SR05W	302353	882938	H	270	--	--	--
Q055 JAMES GAUTIER	SENWS29T07SR05W	302356	0883013	H	202	--	--	--
Q056 M STRINGFELLOW	NWNES32T07SR05W	302349	883031	H	280	260.00	--	--
Q057 MOSS POINT	NESWS30T07SR05W	302434	0883118	U	954	934.00	--	500.00

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
112TRCS	4.00	08-01-58
122MOCN	2.00	08-01-59
121GRMF	12.00	10-01-59
122MOCN	--	--
112TRCS	5.00	06-01-59
122MOCN	-26.00	05-01-39
121GRMF	15.00	09-01-59
121GRMF	--	--
122PCGL	-1.27	10-28-82
121GRMF	6.00	03-01-52
121GRMF	17.00	12-01-59
122PCGL	-2.00	04-23-85
122PCGL	-4.00	01-01-59
121CRNL	11.00	10-01-51
121CRNL	11.00	02-01-57
121GRMF	7.00	04-01-58
121GRMF	43.00	10-28-82
121GRMF	--	--
121GRMF	14.00	01-01-56
121GRMF	78.00	05-01-47
121GRMF	90.00	04-01-50
121GRMF	66.00	09-01-48
121GRMF	21.00	09-01-59
121GRMF	--	--
121GRMF	--	--
121GRMF	19.00	08-01-60
112TRCS	8.00	08-01-60
112TRCS	7.00	01-01-36
112TRCS	10.00	01-01-58
121GRMF	23.00	06-01-60
121GRMF	21.00	04-01-60
121GRMF	26.00	06-01-59
121GRMF	25.00	08-01-58
121GRMF	27.00	01-01-54
121GRMF	31.00	05-01-59
121GRMF	27.00	02-01-59
121GRMF	36.00	06-01-59
122MOCN	-27.00	05-01-39
121GRMF	41.00	09-01-58
122PCGL	.00	01-01-53

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
Q058 MOSS POINT	SWNES30T07SR05W	302434	0883118	U	792	752.00	--	--
Q059 J J WHITEHEAD	NENWS06T08SR05W	302301	0883111	H	272	--	--	--
Q060 J V HUDSON	SWNWS06T08SR05W	302241	0883131	H	310	--	--	--
Q061 MAX BODDEN	SWNWS06T08SR05W	302237	0883141	H	80.0	--	--	--
Q062 OLEN ENGLISH	NWNWS06T08SR05W	302304	0883134	H	320	--	--	--
Q063 F M KITCHENS	NWNES06T07SR05W	302258	883142	H	305	295.00	--	--
Q064 T L SHERROD	--NWS06T08SR05W	302249	883136	H	273	258.00	--	--
Q067 RAY KREBS	NWNWS07T08SR05W	302203	0883140	H	662	--	--	--
Q068 W C BRONDUM JR	SENWS07T08SR05W	302145	0883107	H	654.	--	--	--
Q069 RAY KREBS	NENWS07T08SR05W	302201	883114	H	641	--	--	--
Q071 RAY KREBS	--NWS30T08SR05W	302203	0883138	H	662.	--	--	--
Q074 R F KREBS	NESES07T07SR05W	302208	0883137	H	106	96.00	--	--
Q076 GEORGE HAGUE	SWNWS05T08SR05W	302234	0883034	H	273	--	--	--
Q077 S MAPLES	SWSWS05T08SR05W	302218	0883044	U	193	--	--	--
Q078 C C PARKER	NWNES08T08SR05W	302208	0883020	H	64.0	--	--	--
Q079 KEITH HOWELL	NWNWS08T08SR05W	302208	0883035	H	88.0	--	--	--
Q080 GRADY BAGGET	NESWS08T08SR05W	302146	0883021	H	81.0	--	--	--
Q081 JOE BLACKWELL	SWSWS05T08SR05W	302225	0883047	H	120	--	--	--
Q082 OSCAR A HILL	NENWS08T08SR05W	302159	883021	H	74.0	--	--	--
Q083 S M WILSON	SWSES05T08SR05W	302220	883035	H	278	--	--	--
Q084 F W SHAW	SWSES05T08SR05W	302220	883035	H	120	--	--	--
Q085 IRBY TILLMAN	SWSES05T08SR05W	302220	883020	H	294	--	--	--
Q086 GEORGE MAPLES	SWSWS05T08SR05W	302220	883020	H	68.0	--	--	--
Q116 USGS	SWNWS09T08SR05W	302147	0882939	U	202	--	--	--
Q117 JACKSON COUNTY	SESES05T08SR05W	302223	0883003	U	1102.	--	--	--
Q118 JACKSON COUNTY	SESES05T08SR05W	302223	0883003	U	202	--	--	--
Q119 USGS	SESES32T07SR05W	302305	0883001	U	157	152.00	--	--
Q120 JACKSON CO AIRP	NENWS04T08SR05W	302254	0882932	H	1094.	--	--	--
Q121 NORMAN BOSARGE	NESWS22T07SR05W	302512	0882801	H	243	232.00	--	15.00
Q127 STANDARD OIL CO	SWNWS09T08SR05W	302156	0882945	U	--	--	--	--
Q128 STANDARD OIL CO	NENES09T08SR05W	302209	0882852	U	--	--	--	--
Q138 READY MIX CONCT	SESWS32T07SR05W	302315	0883023	U	294	264.00	--	--
Q139 J E CLARK	SESWS18T07SR05W	302549	0883132	-	358.	--	--	--
Q141 RAY KREBS	NWNWS30T08SR05W	302207	0883143	U	--	--	--	--
Q142 W A GREENOUGH	NWSWS18T07SR05W	302604	0883150	H	157.	--	--	--
Q143 JACKSON COUNTY	SENES08T08SR05W	302154	0882949	H	814	794.00	--	--
Q147 CITY LUM & SUPP	SESES21T07SR05W	302454	882852	H	116	111.00	--	--
Q149 DAIRY FRESH COR	SESES31T07SR05W	302312	0883049	U	333	323.00	--	30.00
Q150 MAG WELDING SUP	SESES31T07SR05W	302314	0883049	U	325	320.00	--	6.00
Q151 ZAPATA	NWNWS20T07SR05W	302531	0883039	N	232	182.00	--	500.00

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
122PCGL	15.00	04-01-59
121GRMF	22.00	07-01-59
121GRMF	9.00	01-01-54
112TRCS	20.00	01-01-55
121GRMF	42.00	09-01-59
122MOCN	48.00	07-01-60
121GRMF	46.00	11-01-60
122MOCN	2.00	01-01-46
122PCGL	--	--
122MOCN	11.00	01-01-51
122PCGL	15.00	12-01-60
122MOCN	18.00	08-01-60
121GRMF	11.00	01-01-55
121CRNL	10.00	01-01-53
112TRCS	--	--
112TRCS	3.00	01-01-56
112TRCS	2.00	01-01-56
121CRNL	16.00	03-01-60
112TRCS	8.00	04-01-60
122MOCN	53.00	05-01-60
122MOCN	15.00	05-01-60
122MOCN	45.00	07-01-60
121CRNL	10.00	09-01-60
121GRMF	9.00	12-01-59
122PCGL	--	--
121CRNL	15.00	05-01-60
121CRNL	17.00	11-01-59
122PCGL	--	--
121GRMF	22.00	03-01-68
--	--	--
--	--	--
121GRMF	55.00	12-01-63
121GRMF	--	--
--	--	--
121GRMF	9.00	07-01-59
122PCGL	1.00	08-01-61
--	11.00	11-01-62
121GRMF	116.00	08-30-77
121GRMF	61.00	05-01-63
121GRMF	30.00	02-01-65

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
Q153 IRBY TILLMAN	SWSES05T08SR05W	302217	0883016	H	294	284.00	--	--
Q157 M SNELSON	NWNWS23T07SR05W	302542	882742	H	68.0	63.00	--	--
Q158 THIOKOL CHEM CO	NENES19T07SR05W	302533	0883055	N	240	200.00	--	320.00
Q159 THIOKOL CORP	SWSWS17T07SR05W	302542	0883048	N	231	191.00	--	400.00
Q160 THIOKOL CORP	--SWS17T07SR05W	302530	0883059	N	236	186.00	--	500.00
Q161 THIOKOL CORP	NENWS19T07SR05W	302538	883106	-	710	--	--	--
Q162 THIOKOL CORP	SWSWS17T07SR05W	302549	883044	U	296	--	--	--
Q163 THIOKOL CORP	SWSWS17T07SR05W	302549	883044	U	310	--	--	--
Q165 BRIDGES + ALEX	NWSES06T08SR05W	302225	0883106	U	200	160.00	--	--
Q166 MOSS POINT	NESWS29T07SR05W	302411	0883028	U	645.	602.00	--	400.00
Q173 D YATES	NWNWS23T07SR05W	302532	0882739	H	242	232.00	--	--
Q175 H W PARKS	NWNWS06T08SR05W	302253	883136	H	288	--	--	--
Q177 C L WELVERTON	NWSWS33T07SR05W	302342	882944	-	252	--	--	--
Q178 CONCRET PROD CO	SESWS32T07SR05W	302309	0883040	N	180	160.00	--	150.00
Q188 T J BOYKIN	SENWS02T07SR05W	302802	0882718	H	220.	210.00	--	--
Q190 ANDREW BRANAM	SESWS33T07SR05W	302308	0882922	H	252.	242.00	--	--
Q194 JONES & PERRY	NWNWS08T08SR05W	302203	883045	H	120	115.00	--	--
Q195 C B WILKERSON	NWSWS30T07SR05W	302426	883148	H	78.0	73.00	--	--
Q196 LEE WATKINS	NWNES05T07SR05W	302811	0883008	H	199.	189.00	--	--
Q201 J T JONES	NENES06T07SR05W	302814	0883103	H	236	226.00	--	--
Q203 W MAPLES	SESWS28T07SR05W	302355	0882924	H	283.	273.00	--	--
Q204 W MAPLES	----S33T07SR05W	302325	882912	H	63.0	53.00	--	--
Q205 BILL HATLEY	NENES06T07SR05W	302808	0883102	H	241	231.00	--	--
Q208 HUGH STORK	SWSWS27T07SR05W	302356	0882834	H	293	287.00	--	--
Q209 GORDIE BROADUS	NWNES23T07SR05W	302536	882722	H	237	231.00	--	--
Q211 O L HATLEY	----S23T07SR05W	302459	882716	H	208	198.00	--	--
Q212 W W RUE	SWSWS26T07SR04W	302404	882742	H	268	258.00	--	--
Q213 BOLER TAYLOR	NESWS23T07SR05W	302508	0882720	H	221	211.00	--	--
Q214 DURWALD DUNN	SWNES32T07SR05W	302330	883022	H	242	232.00	--	--
Q219 FRANK LAAKSO	NWNES23T07SR04W	302537	882722	H	325	315.00	--	--
Q220 GARY SMITH	SWSWS06T07SR05W	302733	883145	H	312	302.00	--	--
Q221 CITY LUM + SUPP	----S28T07SR05W	302444	882913	H	125	120.00	--	--
Q222 J D STEWART	NWSWS03T07SR05W	302807	882846	H	209	204.00	--	5.00
Q225 BLUE LAKE MANOR	SESWS06T08SR05W	302220	0883123	U	303.	286.00	--	--
Q226 F T BOYKIN	NESWS02T07SR05W	302747	0882719	H	576	566.00	--	--
Q228 LOUIS DELMAS	SWNES30T07SR05W	302417	883126	I	73.0	68.00	--	--
Q232 BLUE LAKE MANOR	SESWS06T08SR05W	302217	0883122	H	296	276.00	--	--
Q233 CHRIS LADNIER	NWNWS33T07SR05W	302347	882937	H	252	242.00	--	--
Q234 R STEWART	NWSWS03T07SR05W	302806	882845	H	247	242.00	--	--
Q237 A C STEPHEWS	NWNWS29T07SR05W	302444	883035	H	118	113.00	--	--

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
121GRMF	45.00	07-01-60
--	12.00	02-01-61
121GRMF	45.00	10-28-82
121GRMF	32.00	09-01-64
121GRMF	33.00	08-01-65
121GRMF	--	--
121GRMF	--	--
121GRMF	--	--
121GRMF	17.00	06-01-63
122PCGL	24.00	03-01-64
121GRMF	15.00	03-01-61
122MOCN	43.00	05-01-60
121CRNL	--	--
121CRNL	96.00	10-28-82
121GRMF	7.00	08-01-61
121GRMF	--	--
--	15.00	04-01-62
--	15.00	05-01-62
121GRMF	6.00	05-01-62
121GRMF	5.00	06-01-62
121GRMF	63.00	06-01-62
--	11.00	06-01-62
121GRMF	7.00	08-01-62
121GRMF	32.00	08-01-62
--	22.00	09-01-62
--	20.00	10-01-62
--	27.00	10-01-62
121GRMF	23.00	11-01-62
--	51.00	12-01-62
--	12.00	03-01-63
--	20.00	03-01-63
--	10.00	03-01-63
--	11.00	04-01-63
121GRMF	62.00	04-01-63
122PCGL	8.00	06-01-63
--	12.00	07-01-63
121GRMF	66.00	08-01-63
--	50.00	08-01-63
--	10.00	09-01-63
--	12.00	10-01-63

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
Q238 R LOCKHART	NENWS05T07SR05W	302811	0883031	H	162.	157.00	--	--
Q239 STAN CONT SERV	NWNES32T07SR05W	302352	883020	H	50.0	45.00	--	--
Q240 CECIL BETTY	NWNES02T07SR05W	302820	882731	H	735	725.00	--	--
Q241 BOSARGE + ELLIS	NWNWS23T07SR05W	302505	882734	H	236	231.00	--	--
Q242 SMITH BAKERY WH	NENES28T07SR05W	302442	882856	H	84.0	79.00	--	--
Q243 GORDON	SWNWS18T07SR05W	302559	883143	H	147	142.00	--	--
Q244 BURT LOLLAR	SENWS30T07SR05W	302417	883113	I	68.0	63.00	--	--
Q248 GENE WIGENTON	NENWS08T08SR05W	302208	883007	H	315	305.00	--	--
Q249 JAMES SAVAGE	NWSES31T07SR05W	302343	883128	I	88.0	83.00	--	--
Q251 LARRY NICHOLSON	SESWS22T07SR05W	302453	0882823	H	256	251.00	--	--
Q252 DAN BOYD O BASS	SWNES02T07SR05W	302804	0882716	H	220	215.00	--	--
Q253 CHARLES BOSARGE	SENWS26T07SR05W	302433	0882718	H	135	130.00	--	--
Q254 CH OF LORD JESUS	NENES06T07SR05W	302818	0883105	H	257.	252.	257.	--
Q257 STANDARD RENTAL	NESWS08T08SR05W	302151	883019	H	107	102.00	--	--
Q259 J B HAMMOND JR	SWSES22T07SR05W	302457	882826	H	258	248.00	--	--
Q261 REV P P PARKER	NENES06T07SR05W	302257	883059	H	246	241.00	--	--
Q262 A B COLLUM	NWSES04T07SR05W	302749	0882916	H	215	210.00	--	--
Q264 B H BOSARGE	NESES22T07SR05W	302510	0882800	H	260.	251.00	--	15.00
Q265 R E BORKE	NWNWS03T07SR05W	302818	882837	H	210	200.00	--	12.00
Q266 MOT VEHICLE COM	NWSES23T07SR05W	302505	882720	H	221	211.00	--	--
Q272 MOSS POINT	SWSES29T07SR05W	302356	0883004	U	--	--	--	--
Q273 R E MCCONEGHEY	NESES31T07SR05W	302340	883050	H	428	423.00	--	--
Q274 W E STOCKMAN	----S26T07SR05W	302415	882720	H	253	248.00	--	--
Q276 SAM PRESLEY	NENES05T07SR05W	302815	882959	H	426	421.00	--	--
Q278 JOHN L RAY	NWSES18T07SR05W	302615	883133	H	199	194.00	--	--
Q279 LARRY NICHOLSON	SESWS22T07SR05W	302454	0882821	H	256	251.00	--	--
Q280 TOXIE POWER	SESWS27T07SR05W	302358	0882817	H	262	252.00	--	--
Q281 S C MCBETH	NWNES31T07SR05W	302350	883121	H	68.0	63.00	--	--
Q282 DAN SCHMITZ	SESWS27T07SR05W	302405	882808	H	271	261.00	--	--
Q284 J CUNNINGHAM	----S16T07SR05W	302612	882910	H	32.0	27.00	--	--
Q285 CHAS BOSARGE	SENWS26T07SR05W	302435	0882724	H	135	130.00	--	--
Q286 BEL-AIR ESTATES	NESES17T08SR05W	302620	882957	H	127	122.00	--	--
Q288 STANDARD RENTAL	NENES07T08SR05W	302200	883058	H	107	102.00	--	--
Q290 WALLACE CONST C	NENES07T08SR05W	302200	883050	H	69.0	64.00	--	--
Q292 CHU OF LORD JES	NENES06T07SR05W	302818	0883103	H	257.	252.00	--	--
Q293 PASCAGOULA	NWNES06T08SR05W	302300	0883115	P	326	246.00	--	550.00
Q294 BERT LOLLER	NENWS05T07SR05W	302818	883001	H	176	171.00	--	--
Q295 P P PARKER	NENWS06T07SR05W	302815	883005	H	246	241.00	--	--
Q296 A B COLLUM	NWSES04T07SR05W	302750	0882918	H	215.	210.00	--	--
Q298 B L JONES	NWNWS33T07SR05W	302358	882940	H	279	274.00	--	--

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
121GRMF	11.00	11-01-63
--	15.00	01-01-64
--	-16.00	01-01-64
--	22.00	02-01-64
--	26.00	03-01-64
--	12.00	04-01-64
--	20.00	04-01-64
--	85.00	05-01-64
--	19.00	06-01-64
121GRMF	28.00	01-01-65
121GRMF	8.00	02-01-65
121GRMF	3.00	03-01-65
121GRMF	-9.	03-22-66
--	21.00	04-01-66
--	28.00	05-01-66
--	7.00	06-01-66
121GRMF	12.00	08-01-66
121GRMF	23.00	04-01-67
--	2.00	04-01-67
--	20.00	08-01-60
--	--	--
122PCGL	-2.00	07-01-65
121GRMF	28.00	10-01-65
121GRMF	-22.00	10-01-64
121GRMF	3.00	12-01-64
121GRMF	28.00	01-01-65
121GRMF	-28.00	06-01-65
121CRNL	12.00	05-01-65
121GRMF	23.00	05-01-65
121CRNL	15.00	12-01-64
121GRMF	3.00	04-01-65
121CRNL	17.00	08-01-63
121CRNL	21.00	04-01-66
121CRNL	19.00	04-01-66
121GRMF	9.00	03-01-69
121GRMF	118.00	04-24-85
121GRMF	4.00	05-01-66
122PCGL	7.00	06-01-66
121GRMF	12.00	08-01-66
122PCGL	50.00	10-01-66

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
Q299 RUFUS JOHNSON	NWSWS03T07SR05W	302803	882840	H	238	234.00	--	--
Q301 JOHN MORIE	SENWS31T07SR05W	302320	883100	H	154	149.00	--	--
Q304 D O MCCOLLUM	SWSES34T06SR05W	302310	882825	H	50.0	45.00	--	--
Q305 AUTO COMPTROLER	SENWS23T07SR05W	302518	0882725	H	363.	357.00	--	7.00
Q306 E COOK	SENWS26T07SR05W	302415	882720	H	242	237.00	--	--
Q307 L H FOUNTAIN	NWSES08T08SR05W	302150	883027	H	69.0	64.00	--	--
Q309 ROB POOLE	NESWS23T07SR05W	302528	882715	H	322	317.00	--	7.00
Q312 RUSSEL DEWITT	SWNES15T07SR05W	302558	882815	H	201	197.00	--	--
Q315 ORANGE GROVE CH	NENWS23T07SR05W	302539	0882729	H	236	231.00	--	--
Q317 A L MAHATHY	SWSES22T07SR05W	302455	882818	H	106	102.00	--	6.00
Q318 H A POLK	NWNWS03T07SR05W	302814	0882845	H	193	188.00	--	6.00
Q319 ORANGE GROVE CH	SWNWS23T07SR05W	302530	0882742	H	237	232.00	--	--
Q321 ELEY MILLER	SESWS27T07SR05W	302357	882810	H	271	267.00	--	5.00
Q322 W A STANLEY	NWSES23T07SR05W	302518	882730	H	336	331.00	--	6.00
Q325 THIOKOL CHEM	-----S09T07SR05W	302705	0882915	U	6026	--	--	--
Q325 THIOKOL CHEM	-----S09T07SR05W	302705	882915	U	3950	--	--	--
Q325 THIOKOL CHEM	-----S09T07SR05W	302705	0882915	U	6370.	--	--	--
Q325C THIOKOL CHEM	-----S09T07SR05W	302705	0882915	-	3970	--	--	--
Q329 TERRY BRELAND	NENWS05T07SR05W	302816	0883020	H	153.	148.00	--	--
Q330 VIRGIL BERNT	NWNWS06T07SR05W	302800	883145	H	152	147.00	--	--
Q331 J C WOODS	NWNWS23T07SR05W	302530	882730	H	215	210.00	--	7.00
Q332 PEARLEY JONES	NWNWS23T07SR05W	302527	882730	H	215	210.00	--	5.00
Q333 LEE MARTIN	NWNWS23T07SR05W	302528	882730	H	215	210.00	--	7.00
Q334 GUY HOWARD	NENWS23T07SR05W	302542	0882730	H	215.	210.00	--	--
Q336 VESTER PIERCE	NWNWS23T07SR05W	302529	882728	H	215	210.00	--	7.00
Q337 L ROGERS	SWNWS30T07SR05W	302409	883140	H	93.0	89.00	--	--
Q339 J H KING	NWNWS05T07SR05W	302800	883012	H	258	253.00	--	--
Q343 C J WALKER	-----S31T07SR05W	302316	883123	H	285	275.00	--	--
Q344 H W DAVIS	-----S30T07SR05W	302417	883127	H	257	247.00	--	--
Q346 A J KNIGHT	-----S13T07SR05W	302600	882800	H	242	232.00	--	--
Q347 CHAS MORELAND	NESWS07T08SR05W	302157	883100	H	68.0	63.00	--	10.00
Q348 NELSON MOTOR CO	SENES05T08SR05W	302230	883000	H	135	131.00	--	10.00
Q349 WARREN GREEN	NESWS23T07SR05W	302509	0882725	H	215	210.00	--	--
Q350 WILLIE WYNN	NWNWS33T07SR05W	302349	882920	H	269	264.00	--	15.00
Q353 A L HURD	-----S26T07SR05W	302430	882727	H	160	155.00	--	--
Q354 OLIVIA HESTER	SENWS26T07SR05W	302433	0882726	H	237	232.00	--	20.00
Q356 BOB FRANKLIN	SWSES33T07SR05W	302305	882851	H	234	229.00	--	8.00
Q360 C C RAY	-----S21T07SR05W	302518	882919	H	253	248.00	--	--
Q367 W A CULLA	SESWS27T07SR05W	302355	882800	H	260	255.00	--	15.00
Q368 MARK DELMAS	NWNWS05T07SR05W	302807	0883038	H	269	264.00	--	6.00

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
122PCGL	5.00	11-01-66
121GRMF	4.00	02-01-67
121CRNL	9.00	05-01-67
121GRMF	22.00	10-28-82
121GRMF	27.00	07-01-67
121CRNL	13.00	08-01-67
122PCGL	13.00	10-01-67
121GRMF	30.00	04-01-69
121GRMF	22.00	05-01-70
121CRNL	5.00	02-01-69
121GRMF	-2.00	03-01-69
121GRMF	22.00	04-01-69
121GRMF	33.00	09-01-68
122MOCN	17.00	01-01-70
125MDWY	--	--
124EOCN	--	--
210CRCS	--	--
124EOCN	--	--
121GRMF	16.00	06-01-70
121CRNL	7.00	09-01-70
121GRMF	24.00	09-01-70
121GRMF	24.00	09-01-70
121GRMF	23.00	09-01-70
121GRMF	22.00	09-01-70
121GRMF	24.00	10-01-70
121CRNL	16.00	04-01-70
121GRMF	17.00	04-01-70
121GRMF	61.00	10-01-62
121GRMF	6.00	02-01-63
121GRMF	14.00	03-01-63
121CRNL	12.00	07-01-67
121GRMF	35.00	02-01-71
121GRMF	24.00	06-01-71
121GRMF	53.00	10-01-71
121GRMF	8.00	04-01-71
121GRMF	30.00	09-01-71
121GRMF	13.00	11-01-71
121GRMF	5.00	04-01-71
121GRMF	30.00	07-01-72
121GRMF	10.00	05-01-72

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
Q370 A L MAHATHY JR	SWSWS22T07SR05W	302449	0882834	H	257	252.00	--	15.00
Q371 R E RAMSEY	NWNES06T07SR05W	302815	883130	H	153	148.00	--	--
Q373 FRANCIS LARSEN	SENWS22T07SR05W	302504	882800	H	236	231.00	--	10.00
Q375 A L MAHATHY JR	SWSWS22T07SR05W	302456	0882836	H	257	252.00	--	8.00
Q377 HIGGINS BOTTOM	SENWS31T07SR05W	302310	883058	H	150	140.00	--	8.00
Q380 W A STANLEY	NWNWS06T07SR05W	302800	883143	H	152	147.00	--	--
Q382 M R ROBINSON	SENWS29T07SR05W	302412	883013	H	256	251.00	--	8.00
Q384 LOUIS SEMAM	SWNWS23T07SR05W	302527	0882740	H	237	232.00	--	10.00
Q385 C MCCORMACK	SWNWS23T07SR05W	302528	0882745	H	265	260.00	--	10.00
Q386 F W FLETCHER	NWNWS23T07SR05W	302531	882743	H	237	232.00	--	10.00
Q389 G F KELLY	NENWS23T07SR05W	302540	0882718	H	247.	242.00	--	10.00
Q390 R E RAMSEY	NENWS06T07SR05W	302812	883112	H	153	148.00	--	--
Q392 ROBERT STEWART	NWSWS03T07SR05W	302758	882838	H	255	250.00	--	8.00
Q393 DONNY MASHBURN	SESES15T07SR05W	302546	0882748	H	213	210.00	--	12.00
Q395 EQUIPMENT INC	SWSES05T08SR05W	302221	0883007	U	308	298.00	--	50.00
Q396 VESTER PIERCE	SESES27T07SR05W	302359	0882749	H	262	252.00	--	8.00
Q397 REGENCY WOOD	NENWS05T08SR05W	302810	883010	H	--	--	--	--
Q398 C MCCORMACK	NWNWS23T07SR05W	302530	0882745	H	265	260.00	--	10.00
Q399 BUTCH FLETCHER	NWNES23T07SR05W	302540	882730	H	237	232.00	--	10.00
Q400 TERRY NICKELSON	SWSES31T07SR04W	302750	882840	H	153	148.00	--	12.00
Q401 JOE YOUNG	SWNES33T07SR05W	302425	882930	H	216	211.00	--	10.00
Q402 JOHN MCDONALD	NWSES23T07SR05W	302520	882730	H	236	231.00	--	15.00
Q404 PASCAGOULA	NWNES05T08SR05W	302252	0883016	U	--	--	--	--
Q405 JOHN MCDONALD	NWSES23T07SR05W	302529	882715	H	250	245.00	--	15.00
Q406 WILLIARD RICE	NWNWS28T07SR05W	302434	0882934	H	263.	258.00	--	15.00
Q407 PASCAGOULA	SENWS05T07SR05W	302246	0883028	U	327	247.00	--	600.00
Q414 OTIS BARNES	-----S09T07SR05W	302655	882920	H	396	386.00	--	10.00
Q415 TOMMY HAMMONS	SWNES04T07SR05W	302755	882853	H	58.0	53.00	--	20.00
Q416 PHIL BOSARGE	SWNES23T07SR05W	302508	0882723	H	250	240.00	250.00	10.00
Q417 MOSS POINT	SESWS30T07SR05W	302356	0883124	P	802	752.00	--	577.00
						--	--	503
Q417 MOSS POINT	SESWS30T07SR05W	302357	0883125	P	802.	752.	802.	577.
Q420 PASCAGOULA	SENWS05T08SR05W	302244	0883030	P	346	266.00	346.00	600.00
Q422 INT PAPER CO	SESWS21T07SR05W	302448	0882929	N	255	205.00	255.00	500.00
Q425 WILLIAM A BUSH	SWSES27T07SR05W	302357	882815	H	270	260.00	270.00	11.00
Q427 GRANVILLE JONES	NENES22T07SR05W	302536	0882747	H	244	234.00	244.00	9.00
Q432 MOSS POINT	NENWS19T07SR05W	302539	0883129	-	--	--	--	--
Q433 MOSS POINT TH-1	SWSWS18T07SR05W	302549	0883138	-	--	--	--	--
Q434 MOSS POINT	SWNWS18T07SR05W	302622	0883134	P	435	400.00	435.00	300.00
Q435 MOSS POINT	SWSWS18T07SR05W	302550	0883144	-	513	--	--	--

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
121GRMF	40.00	08-01-72
121GRMF	11.00	10-01-72
121GRMF	40.00	10-01-72
121GRMF	29.00	08-01-72
121GRMF	20.00	07-01-72
121GRMF	15.00	01-01-73
121GRMF	12.00	01-01-73
121GRMF	25.00	03-01-73
121GRMF	26.00	03-01-73
121GRMF	25.00	03-01-72
121GRMF	28.00	10-01-72
121GRMF	6.00	10-01-72
121GRMF	13.00	02-01-73
121GRMF	24.00	05-01-73
121GRMF	130.00	09-30-77
121GRMF	45.00	07-01-73
--	--	--
121GRMF	26.00	04-01-73
121GRMF	26.00	05-01-73
121GRMF	2.00	04-01-73
121GRMF	26.00	05-01-73
--	25.00	11-01-73
--	--	--
121GRMF	30.00	11-01-73
121GRMF	30.00	09-01-73
121GRMF	92.00	03-01-75
122MOCN	56.00	07-01-74
121CRNL	3.00	06-01-75
121GRMF	25.00	12-01-74
122PCGL	128.00	10-20-82
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122MOCN	84.	08-29-68
121GRMF	128.00	10-20-82
121GRMF	62.00	04-10-77
122MOCN	42.00	03-24-81
121GRMF	34.00	08-29-80
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--	--	--
121GRMF	49.00	10-01-84
122PCGL	--	--

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
Q439A THIOKOL TEST	--SES06T07SR05W	302734	0883106	-	1830.	--	--	--
Q439B THIOKOL TEST	--SES06T07SR05W	302734	0883106	-	1980.	--	--	--
Q440 POLICE ACAD RANGE	NWNWS34T07SR05W	302354	0882839	H	270.	260.	270.	8.
Q441 RICHARD MARTIN	SWSWS26T07SR05W	302400	0882744	H	257.	247.	257.	20.
Q442 RICHARD MARTIN	SWSES27T07SR05W	302400	0882744	I	40.	36.	40.	20.
Q443 AIRPORT AUTHORITY	NWNWS04T08SR05W	302251	0882934	H	258.	248.	258.	10.
Q444 HUGH L STORK	SWSES27T07SR05W	302357	0882816	H	270.	260.	270.	9.
Q445 JACKSON CO PORT AUT	NWNWS34T07SR05W	302345	0882844	H	279.	269.	279.	15.
Q446 MIKE VICE	NWSWS28T07SR05W	302411	0882946	H	80.	70.	80.	8.
Q447 ORANGE GR REC PK	NWNES23T07SR05W	302534	0882712	H	235.	225.	235.	9.
Q449 JAMES FLURRY	----S30T07SR05W	302430	0883106	I	65.	60.	65.	8.
Q450 MR HAGEN	----S18T07SR05W	302550	0883138	I	65.	30.	65.	12.
Q457 ESCATAWPA UTIL	SES06T07SR05W	302740	0883145	-	--	--	--	--
Q458 ALINE PIERCE	NWNES03T07SR05W	302818	0882812	H	170.	160	170	--
Q461 RALPH MORGAN	SWNES23T07SR05W	302524	0882711	I	250	240	250	--
Q468 VELMA RICE	NWNWS27T07SR05W	302442	0882839	H	240.	230.	240.	11.
Q470 PASCAGOULA C C	NWSES06T08SR06W	302213	0883134	H	120	110.00	120.00	55.00
Q472 GEORGE BRANNON	SESWS33T07SR05W	302308	0882924	H	254	249	254	8
Q474 NATHANIEL MILLER	SESES15T07SR05W	302543	0882750	H	240	230	240	8
Q476 SABA F OGLESBY	NESES04T07SR05W	302746	0882856	H	253	243	253	10
Q477 MIKE SWITZER	--NWS28T07SR05W	302443	0882936	H	270	260	270	8
Q478 WHITEHEAD CONST	--SWS32T07SR05W	302307	0883041	H	275	265	270	--
Q481 GLADYS BURROUGHS	NENWS35T07SR05W	302352	0882726	H	290	280	290	9
Q485 EDNA MIZELLE	NWNWS23T07SR05W	302540	0882745	H	240	230	240	12
Q487 GLEN STOKES	NENES34T07SR05W	302350	0882802	H	267	257	267	9
Q488 WAYNE DETHLOFF	NWNES26T07SR05W	302438	0882711	H	256	246	256	10
Q492 THIOKOL INC.	SESES18T07SR05W	302548	0883059	H	222	212	222	65
Q494 J T McCORMICK	NENES22T07SR05W	302530	0882748	H	240	230	240	10
Q495 ARNOLD E MAHATHY	SWSWS22T07SR05W	302452	0882837	H	215	205	215	10
Q496 ALVIN CARROLL	NWNWS23T07SR05W	302538	0882736	H	220	210	220	--
Q497 ALTON READY	NENWS23T07SR05W	302535	0882730	H	240	235	240	10
Q498 ALTON BROWN	NESWS23T07SR05W	302503	0882720	H	240	230	240	7
Q502 RANDY BUSBY	NESWS23T07SR05W	302504	0882720	H	200	190	200	--
Q503 DONALD HARRISON	SENWS23T07SR05W	302522	0882723	H	236	226	236	8
Q504 PRENTISS FLOORE	SWNES23T07SR05W	302521	0882714	H	230	220	230	--
Q505 ORANGE GR ASSM GOD	NWNWS23T07SR05W	302528	0882740	H	225	220	225	13
Q506 JACKSON CO	NWNES23T07SR05W	302528	0882841	H	220	210	220	--
Q508 JESSE BARRON	NESWS23T07SR05W	302505	0882726	H	240	230	240	--
Q509 RICHARD MARTIN	SWSWS26T07SR05W	302505	0882716	H	257	247	257	28
Q511 NAMOI OWENS	SWSWS26T07SR05W	302358	0882742	H	254	244	254	8.5

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
122CTHL	--	--
122CTHL	--	--
121GRMF	70.	11-23-78
121GRMF	40.	02-15-79
111ALVM	12.	05-01-79
121GRMF	83.	02-10-81
121GRMF	50.	07-21-84
121GRMF	44.	06-07-82
111ALVM	15.	05-23-88
121GRMF	--	--
111ALVM	20.	06-27-88
111ALVM	20.	07-03-88
--	--	--
121GRMF	6	07-15-92
121GRMF	30	10-21-92
121GRMF	30.	02-14-94
121GRMF	20.00	05-14-85
121GRMF	60	12-30-76
121GRMF	19	09-24-79
121GRMF	15	04-02-84
121GRMF	55	06-21-84
121GRMF	80	08-29-85
121GRMF	40	11-25-85
121GRMF	27	11-19-90
121GRMF	40	07-25-91
121GRMF	30	07-20-92
121GRMF	35	01-28-88
121GRMF	34	10-21-78
121GRMF	31	10-02-79
121GRMF	33	09-19-88
121GRMF	30	12-07-76
121GRMF	36	04-26-78
121GRMF	37	04-19-84
121GRMF	25	10-30-79
121GRMF	35	06-04-87
121GRMF	30	12-11-79
121GRMF	15	04-19-68
121GRMF	45	02-20-85
121GRMF	40	02-14-79
121GRMF	38	04-05-84

LOCAL WELL NUMBER	LAND-NET LOCATION	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	PRIMARY USE OF WATER	DEPTH OF WELL (FEET)	TOP OF OPEN INTERVAL (FEET)	BOTTOM OF OPEN INTERVAL (FEET)	DISCHARGE (GPM)
Q514 TOXEY POWELL	SWSES27T07SR05W	302358	0882805	H	245	235	245	7
Q515 WILLIE MAPLES	SESWS28T07SR05W	302357	0882923	H	247	237	247	8.5
Q516 ERNEST E SMITH	SESWS33T07SR05W	302309	0882923	H	203	193	203	10
Q517 CHARLES M WRIGHT	SESWS33T07SR05W	302306	0882922	H	216	206	216	7.5
Q518 LABARRON GOINS	NWNWS35T07SR05W	302353	0882737	H	265	255	265	11
Q520 JOHNNY WHITEHEAD	NESWS33T07SR05W	302317	0882926	H	252	232	252	20
Q521 RICHARD CARROLL	NWNWS27T07SR05W	302447	0882842	H	235	225	235	--
Q522 KRYSTAL BARNES	SWNWS22T07SR05W	302518	0882818	H	210	200	210	12
Q525 GOMEZ DETHLOFF	NENWS26T07SR05W	302436	0882718	H	258.	248.	258.	12.
Q529 GREEN THUMB NURSERY	SENWS06T08SR05W	302238	0883131	I	85.	80.00	85.00	12.00

AQUIFER CODE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED
121GRMF	45	08-30-77
121GRMF	54	09-11-78
121GRMF	23	06-11-82
121GRMF	26	12-09-83
121GRMF	38	10-06-89
121GRMF	60	10-20-93
121GRMF	50	08-18-88
121GRMF	35	10-19-88
121GRMF	35.	06-27-94
121CRNL	20.00	04-08-84

OVERSIZED

DOCUMENT

Data Sheet Report Summary
Mississippi State Department of Health
Division of Water Supply

PWS ID	Name of System	Wells	Connections	Consecutive
	Jackson County (Cont.)			
0300042	COAST WATER WORKS-LAURA ACRES	1	49	N
0300043	COAST WATER WORKS-OCEAN VIEW	1	62	N
0300044	GULF PARK WATER	2	933	N
0300045	TUCKER HILL WATER WORKS INC	1	42	N
0300046	MARTIN PINE HILL EST W\WKS	1	34	N
0300047	MAGNOLIA OAKS CONDIMINIUMS	1	109	N
0300050	MOCKINGBIRD TRAILER PARK	2	26	N
0300052	SEASHORE UTL INC-LANGLEY PT	1	55	N
0300057	COAST WATER WORKS-GULF HILLS	5	420	N
0300059	LEMONYE GROVE MOBILE HOME PARK	1	41	N
0300061	TIP MOBILE HOME PARK	1	50	N
0300064	COLONIAL ESTATES # 3 WTR SYST	2	61	N
0300067	WONDERLAND TRAILER PARK	1	33	N
0300068	WOODLAND PARK	1	95	N
0300069	COAST WATER WORKS INC	4	1046	N
0300070	E G TAYLOR WATER SYSTEM	2	45	N
0300075	SIMMONS MOBILE HOME PARK	1	52	N
0300079	BLUFF CREEK MOBILE HOME PARK	2	50	N
0300080	GULF BREEZE MOBILE HOME PARK	1	34	N
0300087	J & J WATER CO #1-TUCKER PARK	1	87	N
0300091	BEACH BAYOU WATER CO	1	53	N
0300104	BAYOU TRAILER PARK	1	10	N
0300110	ROUSE'S WATER COMPANY	1	69	N
0300113	OCEAN BEACH UTILITY	1	90	N
0300143	WESTWICK UTILITY PORTEAUX BAY	1	39	N
0300145	FORT BAYOU MOBILE HOME RENTALS	1	17	N
** County Code: 31	Jasper County			
0310001	TALLAHALA WATER ASSN-ANTIOCH	2	676	N
0310002	TOWN OF BAY SPRINGS	2	747	N
0310003	BEAVERDAM W/A-NORTH	2	462	N
0310004	BEAVER MEADOW WATER ASSN.	3	475	N
0310005	TOWN OF HEIDELBURG	2	440	N
0310007	LOUIN WATER WORKS	1	216	N
0310008	MONTROSE WATER ASSOCIATION	3	134	N
0310009	PAULDING WATER WORKS ASSN	2	311	N
0310010	PHILADELPHIA WATER ASSN	2	598	N
0310011	ROSE HILL WATER ASSOCIATION	2	408	N
0310012	STRINGER WATER WORKS	3	946	N
0310013	TALLAHALA WATER ASSN-HOSSVILLE	1	226	N
0310014	TRI-COUNTY W/A #1-JASPER	2	487	N
0310015	WEST JASPER WATER ASSOCIATION	0	231	Y
0310016	TALLAHALA WTR ASSN-GARLANDVILL	1	430	N
0310017	TALLAHALA WTR ASSN-MISSIONARY	1	25	N
0310018	TALLAHALA WATER ASSN-MONTROSE	1	92	N
0310019	TALLAHALA W/A-TED CLEAR	1	223	N
0310020	TRI-COUNTY W/A #2-SMITH	2	290	N
0310021	VOSSBURG WATER SYSTEM	1	73	N
0310024	TRI-COUNTY # 3 SUMMERLAND	2	219	N

Reference 6

Data Sheet Report Summary
Mississippi State Department of Health
Division of Water Supply

PWS ID	Name of System	Wells	Connections	Consecutive
	Holmes County (Cont.)			
0260025	NORTH GOODMAN WATER ASSN	0	48	Y
0260027	WEST HOLMES WATER ASSOCIATION	1	195	N
0260030	GAGES SPRINGS WATER ASSN	0	56	Y
0260032	LEBANON W/A-EAST	1	198	N
** County Code: 27	*Humphreys County*			
0270001	CITY OF BELZONI	3	2210	N
0270002	HUMPHREY CO. W/A-(C&M)	1	71	N
0270003	TOWN OF ISOLA	2	287	N
0270004	TOWN OF LOUISE	2	281	N
0270007	TOWN OF SILVER CITY	2	125	N
0270018	HUMPHREYS CO. W/A-#1	1	292	N
0270019	HUMPHREYS CO. W/A #3 (ISOLA)	0	46	Y
0270020	HUMPHREYS CO. W/A #3 (ISOLA)	1	94	N
0270021	HUMPHEYS CO. W/A #4 (BELZONI)	0	23	Y
0270022	HUMPHREYS CO # 6 GOODEN LAKE	1	63	N
** County Code: 28	*Issaquena County*			
0280001	TOWN OF MAYERSVILLE	1	130	N
0280009	GRACE WATER ASSOCIATION	1	190	N
0280017	TALLULA UTILITY DISTRICT	1	121	N
** County Code: 29	*Itawamba County*			
0290002	DORSEY WATER ASSOCIATION	2	650	N
0290003	CITY OF FULTON	6	2590	N
0290004	HOUSTON WATER ASSOCIATION	1	275	N
0290005	TOWN OF MANTACHIE	2	602	N
0290009	TOMBIGBEE WATER ASSOCIATION	2	425	N
0290010	TOWN OF TREMONT	2	258	N
0290016	NE ITAWAMBA W/A #1-RIDGE	2	571	N
0290017	NE ITAWAMBA W/A #2-SALEM	2	581	N
** County Code: 30	*Jackson County*			
0300002	ESCATAWPA SUBURBAN UTL DIST	4	2210	N
0300004	GAUTIER UTL DIST	9	3450	N
0300005	CITY OF OCEAN SPRINGS	7	4708	N
0300006	CITY OF PASCAGOULA	10	8500	N
0300007	SWEETBRIAR-TWIN BAYOU S/D	1	233	N
0300008	CITY OF MOSS POINT	6	6029	N
0300018	RANDY'S MOBILE HOME PARK	1	36	N
0300021	SPANISH TRAIL APARTMENTS	2	98	N
0300026	HELENA PARK WATER SYSTEM	2	32	N
0300028	PINE GROVE COMM WATER SYSTEM	1	30	N
0300032	SEVENTH STREET SUBDIVISION	2	35	N
0300033	ST ANDREWS WATER & SEWER, INC	2	275	N
0300037	COAST WATERWORKS INC	3	852	N
0300039	EL BAYOU VISTA SUBDIVISION	2	15	N
0300040	MAGNOLIA UTILITIES	2	364	N
0300041	COAST WATER WORKS-NOBLE ACRES	1	37	N

Reference 6

Table 6. Household, Family, and Group Quarters Characteristics: 1990

[For definitions of terms and meanings of symbols, see text]

State County Place and [In Selected States] County Subdivision	Persons per— Household	Persons per— Family
The State	2.75	3.27
COUNTY		
Adams County	2.64	3.18
Alcorn County	2.52	3.02
Amite County	2.78	3.30
Attala County	2.63	3.20
Benton County	2.82	3.32
Bolivar County	3.02	3.64
Calhoun County	2.60	3.10
Carroll County	2.75	3.24
Chickasaw County	2.77	3.28
Choctaw County	2.78	3.26
Claiborne County	2.82	3.48
Clarke County	2.71	3.20
Clay County	2.83	3.37
Coahoma County	2.93	3.60
Copiah County	2.83	3.36
Covington County	2.84	3.35
DeSoto County	2.81	3.23
Forrest County	2.54	3.15
Franklin County	2.80	3.22
George County	2.86	3.28
Greene County	2.90	3.35
Grenada County	2.75	3.28
Hancock County	2.64	3.11
Harrison County	2.65	3.17
Hinds County	2.70	3.29
Holmes County	2.97	3.61
Humphreys County	3.07	3.67
Issaquena County	3.02	3.57
Itawamba County	2.59	3.02
Jackson County	2.82	3.25
Jasper County	2.86	3.34
Jefferson County	3.07	3.67
Jefferson Davis County	2.91	3.43
Jones County	2.69	3.17
Kemper County	2.77	3.37
Lafayette County	2.47	3.08
Lamar County	2.78	3.21
Lauderdale County	2.59	3.15
Lawrence County	2.74	3.28
Leake County	2.80	3.22
Lee County	2.65	3.14
Leflore County	2.82	3.47
Lincoln County	2.68	3.20
Lowndes County	2.71	3.23
Madison County	2.74	3.34
Marion County	2.75	3.27
Marshall County	2.93	3.41
Monroe County	2.72	3.22
Montgomery County	2.70	3.25
Neshoba County	2.77	3.22
Newton County	2.68	3.15
Noxubee County	3.04	3.65
Oktibbeha County	2.58	3.18
Panola County	2.91	3.44
Pearl River County	2.77	3.21
Perry County	2.84	3.32
Pike County	2.70	3.27
Pontotoc County	2.65	3.11
Prentiss County	2.63	3.08
Quitman County	2.95	3.58
Rankin County	2.82	3.21
Scott County	2.82	3.31
Sharkey County	3.36	3.92
Simpson County	2.78	3.28
Smith County	2.78	3.25
Stone County	2.76	3.25
Sunflower County	3.06	3.71
Tallahatchie County	3.01	3.60
Tate County	2.92	3.36
Tippah County	2.66	3.14
Tishomingo County	2.48	2.93
Tunica County	3.22	3.84
Union County	2.62	3.08
Walthall County	2.86	3.38
Warren County	2.72	3.28
Washington County	2.98	3.54
Wayne County	2.83	3.31
Webster County	2.63	3.17
Wilkinson County	2.85	3.38
Winston County	2.73	3.27
Yalobusha County	2.59	3.20
Yazoo County	2.86	3.45

Household

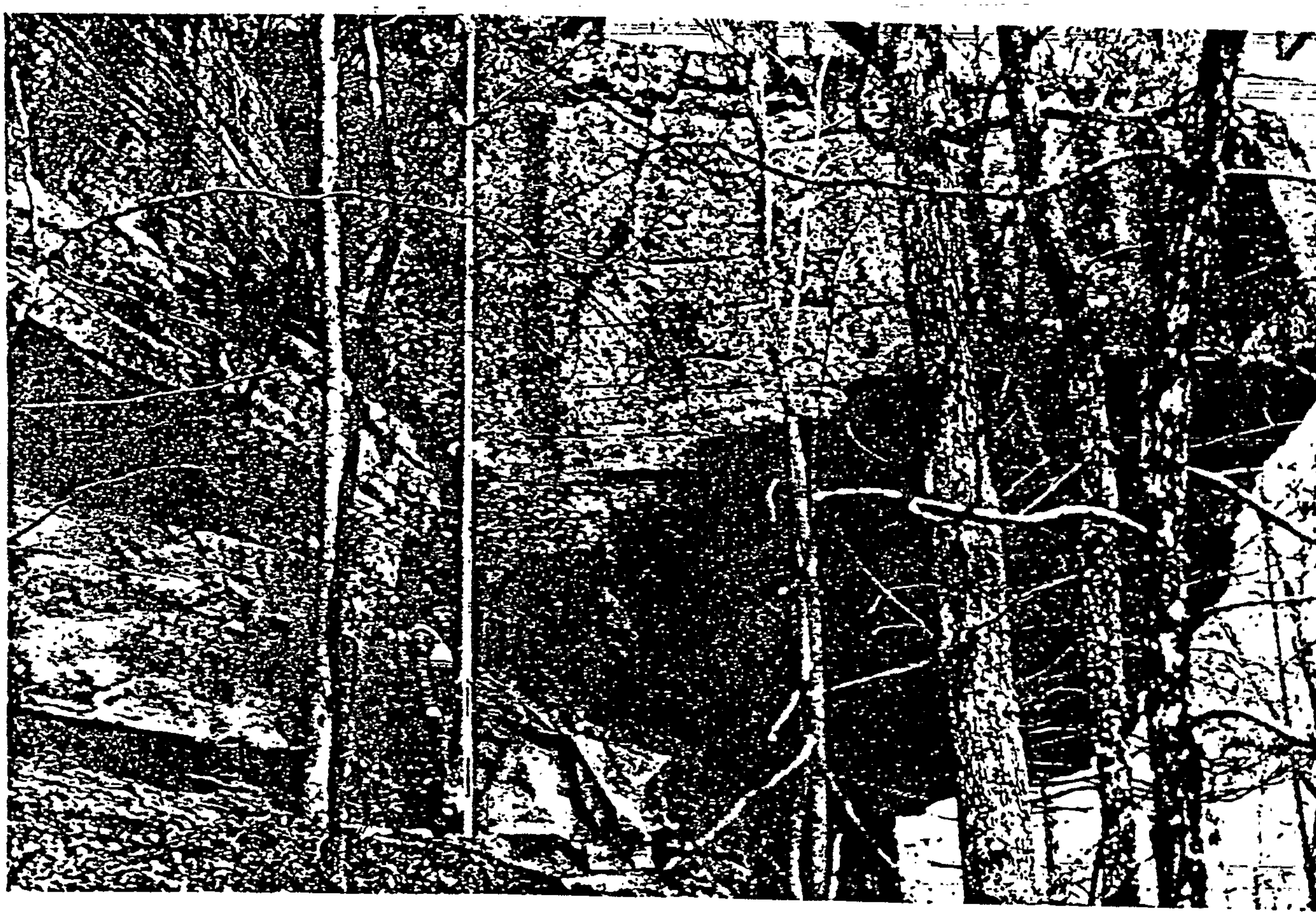
Population

U.S. Department of Commerce, Proof Copy of table generated for 1990, CPH-1: Summary population and housing characteristics, issued by Bureau of Census (April 1991). 1 page.

REFERENCE 7

TISHOMINGO COUNTY GEOLOGY AND MINERAL RESOURCES

Robert K. Merrill
Delbert E. Gann
Stephen P. Jennings



BULLETIN 127

MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES
BUREAU OF GEOLOGY

CONRAD A. GAZZIER
Bureau Director

Jackson, Mississippi
1988

REFERENCE 8

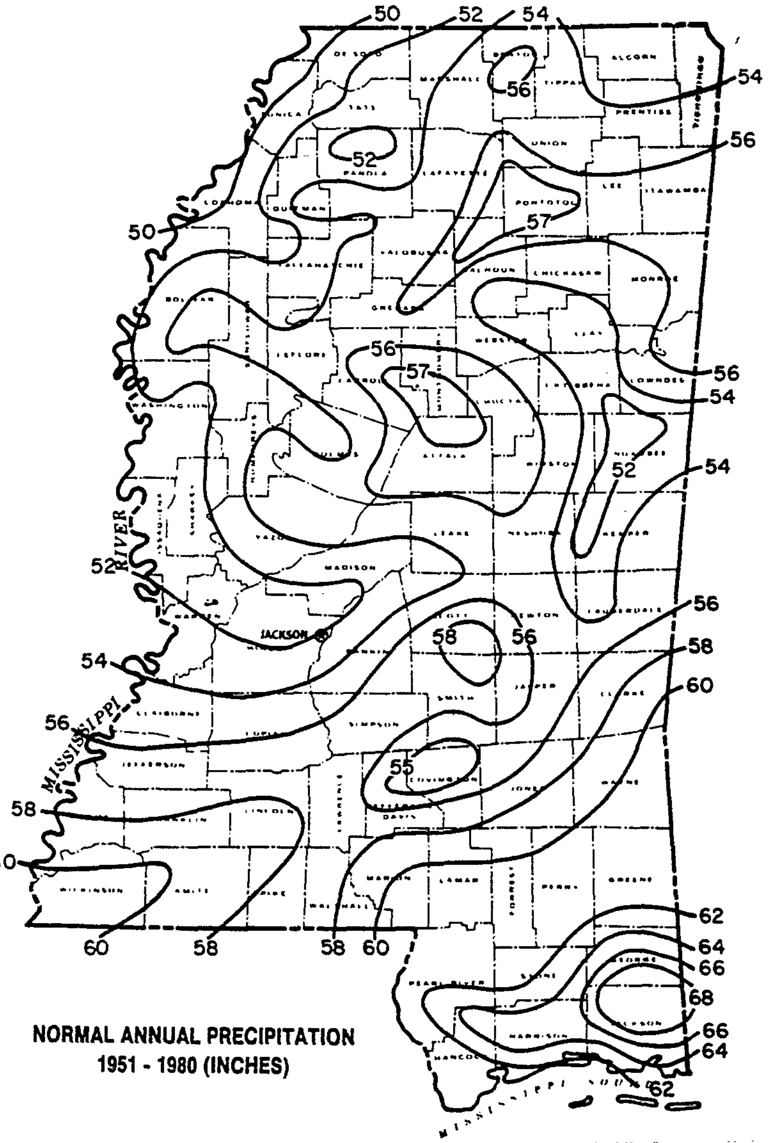
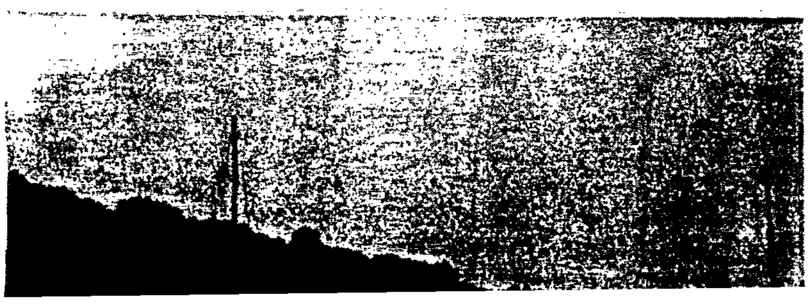


Figure 4 - Mean annual precipitation in inches. From U. S. Weather Bureau, Jackson, Mississippi. Based on the 30-year period 1951-1980. Tishomingo County is shown as the shaded area.



chert strata exposed in and around the park ar waterfront areas outside the park, are shown on 1) as portions of the Fort Payne Formation. Sn ed hilltops are developed on softer Coastal Plair overlie Paleozoic rocks exposed in the valley w terrain comprises the southwestern limit of the Plateaus Physiographic Province in Mississip Tishomingo State Park is also located along t zone, shown as the Paleozoic Bottoms Physi trict in Figure 8. The geologic setting of J. P. (Park appears on Plate 1 (sheet 1) in the area impounded portions of Indian Creek and the of the Tennessee River, along the northeast Tishomingo County. Camping facilities offered man State Park include 45 primitive camping p with grills, picnic tables, and hookups for electi ning water. More luxurious accommodations i nished duplex cabins, three motel suites, restaurant, and catering services.

Tishomingo State Park is one of the 10 (in the State Park System. The park was cons late 1930's by the Civilian Conservation Corp were constructed from the beautiful sandston selle Formation (Highland Church Sandstor 1930), which occurs naturally in and around t The park, as well as Tishomingo County and th of Tishomingo, is named in honor of the lea the Chickasaw Indians, Chief Tish-o-mingo. State Park occupies lands adjacent to Bear Cre tend to the north and south of Horseshoe Be southern portions of T.5S. and northern porti in easternmost R.10E. and westernmost R.11E. 2) illustrates the location and geologic setting The park is located at the southernmost extens terior Low Plateaus Physiographic Province (I Mississippi. This transition zone comprises t Bottom Physiographic District in Figure 8, an ly termed the Appalachian foothills.

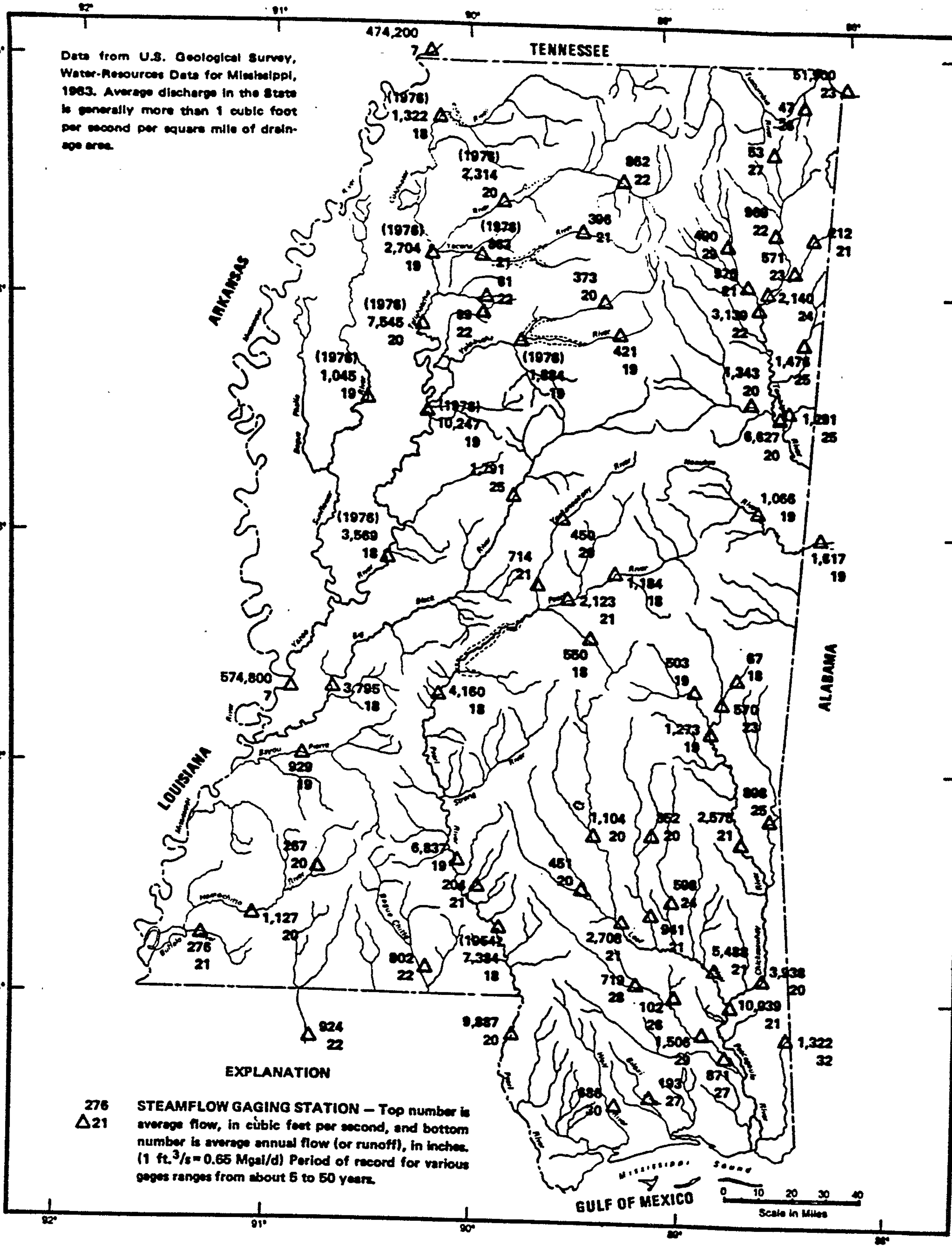
Tishomingo State Park contains cliff-formi of the Hartselle Formation (Highland Church Morse, 1930). Nearly vertical sandstone cliffs Bear Creek valley are the result of downcutting through zones of weakness imposed by fractu the Paleozoic sequence. Bear Creek has erode entire thickness of the Hartselle sandstone, ex and thin beds of limestone comprising uppen of the Pride Mountain Formation (Plate 1). La

SOURCES FOR WATER SUPPLIES IN MISSISSIPPI

by B. E. Wasson
Hydrologist
U.S. Geological Survey

A COOPERATIVE STUDY SPONSORED BY THE
U. S. GEOLOGICAL SURVEY
and the
Mississippi Research and Development Center
JACKSON, MISSISSIPPI
REVISED 1986

REFERENCE 9



· Average flow at selected streamgaging sites in cubic feet per second and in inches per year for periods of record through 1983 water year. (If end of record for station is earlier than 1983, the date is shown in parentheses.)

REFERENCE 10

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by

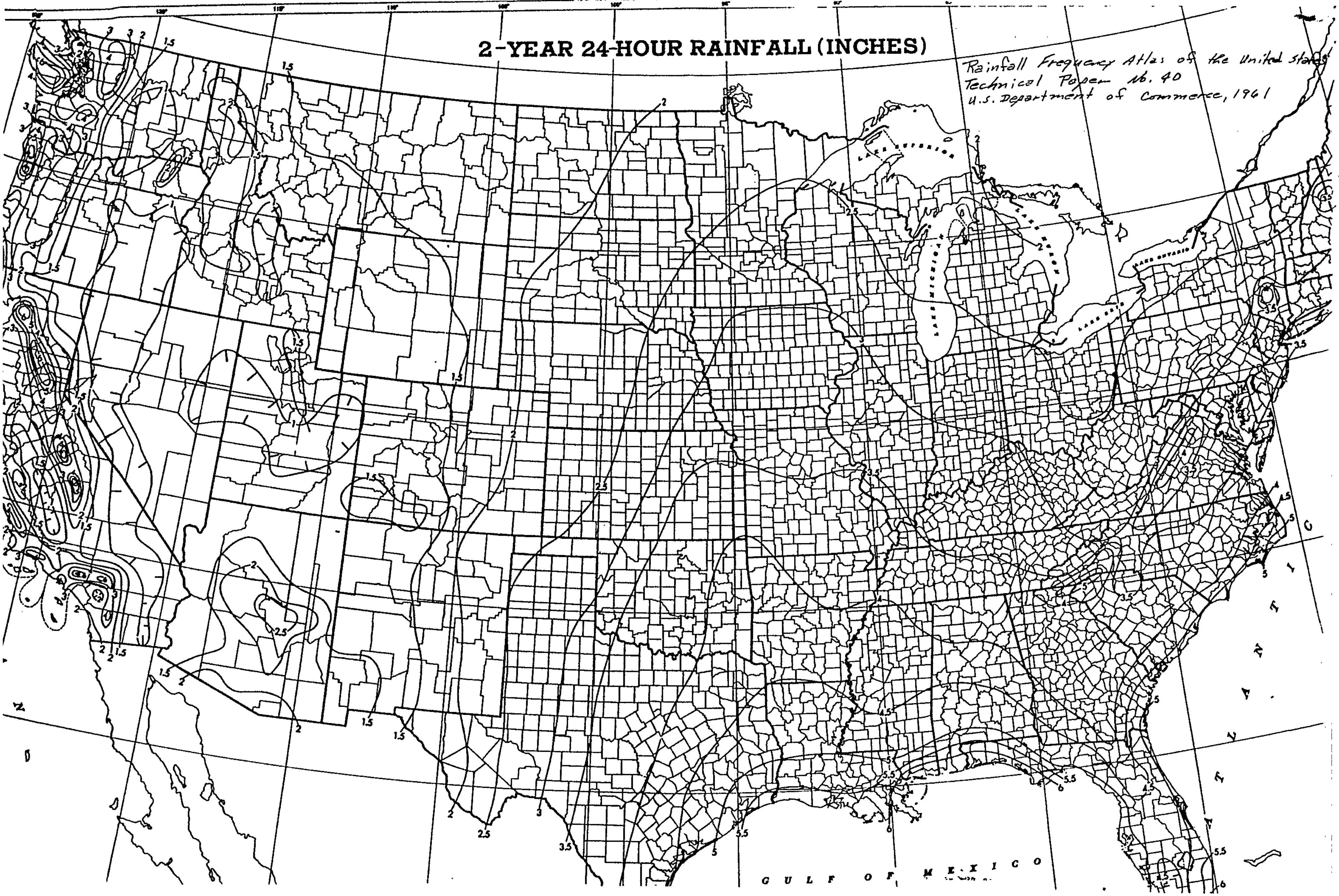
DAVID M. HERSHFIELD

Cooperative Studies Section, Hydrologic Services Division

for

Engineering Division, Soil Conservation Service

U.S. Department of Agriculture


2-YEAR 24-HOUR RAINFALL (INCHES)
Rainfall Frequency Atlas of the United States
Technical Paper No. 40
U.S. Department of Commerce, 1961
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ONTARIO
LAKE ERIE
GULF OF MEXICO

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
MOSS POINT,
MISSISSIPPI
JACKSON COUNTY

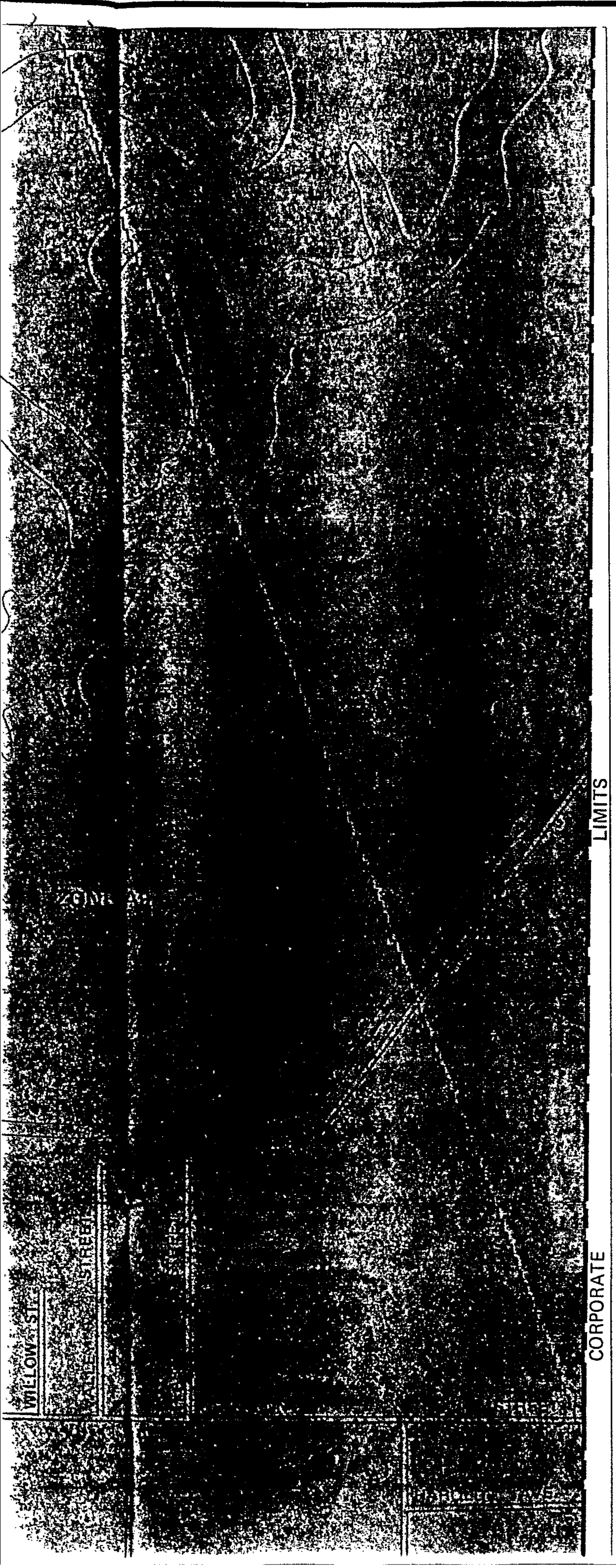
PANEL 3 OF 3

COMMUNITY-PANEL NUMBER
285258 0003 D

MAP REVISED:
SEPTEMBER 4, 1987

Federal Emergency Management Agency

Reference 11



KEY TO MAP

500-Year Flood Boundary —— ZONE B

100-Year Flood Boundary ——

Zone Designations*

100-Year Flood Boundary —— ZONE B

500-Year Flood Boundary ——

Base Flood Elevation Line With Elevation In Feet** — 513

Base Flood Elevation in Feet Where Uniform Within Zone** — (EL 987)

Elevation Reference Mark — RM7×

Zone D Boundary —— — — —

River Mile — •M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Certain areas not in the Special Flood Hazard Areas may be protected by flood control structures.

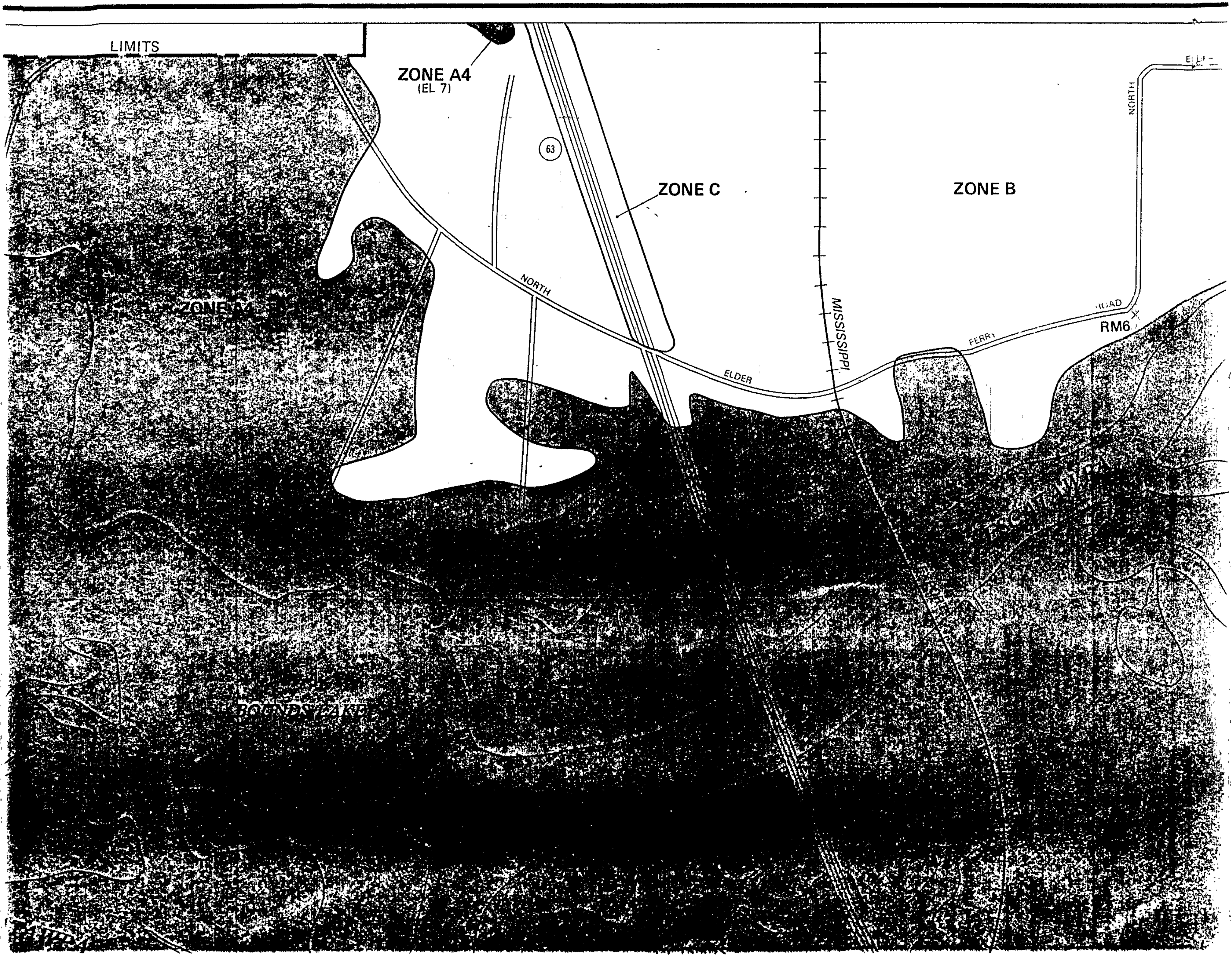
Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

For adjoining panels, see separately printed Map Index.

INITIAL IDENTIFICATION:

SEPTEMBER 18, 1970

FLOOD HAZARD BOUNDARY MAP REVISIONS:



LIMITS
ZONE A4
(EL 7)
63
ZONE C
ZONE B
NORTH
ELDER
FERRY
ROAD
RM6
MISSISSIPPI
ZONE A
BOUNDS LAKE

Series 1960, No. 18

Issued June 1964

SOIL SURVEY

Jackson County Mississippi

OUR SOIL ★ OUR STRENGTH

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
MISSISSIPPI AGRICULTURAL EXPERIMENT STATION

Reference 12

Lakeland soils occur mostly as small to medium-sized areas in this county. Natural vegetation consists chiefly of longleaf pine but includes scrub oak. The understory is chiefly scrub palmetto, low shrubs, and grass. Most of the acreage is in forest. These soils are suited to early truck crops, to the commonly grown row crops, to orchard crops, and to pasture crops.

Lakeland loamy sand, 0 to 5 percent slopes (LaB).—This is a somewhat excessively drained soil of the uplands. The major horizons are—

0 to 20 inches, dark grayish-brown to olive-brown, loose loamy sand.
20 to 36 inches, brownish-yellow, loose loamy sand.
36 to 50 inches +, yellow, loose loamy sand.

Areas under cultivation have a light grayish-brown plow layer. The subsoil ranges from coarse sandy loam to loamy sand. It is 30 to 60 inches thick. Included in the areas mapped are areas of Eustis and Norfolk soils that are too small to be mapped separately.

This soil is strongly acid. Natural fertility is low, and the organic-matter content is low. The available moisture capacity is low. Water moves into and through this soil at a rapid rate. The surface layer is in good tilth.

This soil is suited to a wide variety of row crops, but yields are low in dry years. It is well suited to pasture and to forest. (Capability unit IIIs–1; woodland group 7; forage site C)

Lakeland loamy sand, 5 to 8 percent slopes (LaC).—This soil is more susceptible to erosion than Lakeland loamy sand, 0 to 5 percent slopes. All of the acreage is presently used for the production of wood crops. (Capability unit IVs–1; woodland group 7; forage site C)

Lakeland loamy sand, 8 to 17 percent slopes (LaE).—This soil is more droughty than Lakeland loamy sand, 0 to 5 percent slopes, has more rapid runoff, and is more susceptible to erosion. The surface layer is 5 to 7 inches thick.

All of the acreage is used for the production of wood crops. (Capability unit VIs–1; woodland group 7; forage site C)

Lynchburg Series

The Lynchburg series consists of nearly level to gently sloping, somewhat poorly drained soils that were formed in sandy Coastal Plain material. The surface layer is very dark grayish-brown very fine sandy loam, and the subsoil is pale-yellow to light yellowish-brown very fine sandy loam. Mottles occur at a depth of about 12 inches.

These soils are low to moderate in organic-matter content, low in natural fertility, and strongly acid.

Lynchburg soils occur with Goldsboro, Rains, and Dunbar soils. Lynchburg soils are more poorly drained than Goldsboro soils. They are better drained than Rains soils. They are coarser textured in the lower part of the subsoil than Dunbar soils.

Lynchburg soils occur as small to fairly large areas, mostly in the southern part of this county. The native vegetation consists mostly of longleaf pine, slash pine and loblolly pine but includes some hardwoods. The understory consists chiefly of gallberry, woody shrubs, and grass. Most of the acreage is in forest. Small areas are cultivated or used for pasture. If adequately drained, these soils are suited to most of the commonly grown row crops. The undrained areas are best suited to pasture and to pine trees.

Lynchburg very fine sandy loam, 2 to 5 percent slopes (LyB).—This is a somewhat poorly drained soil of the coastal flatwoods. The major horizons are—

0 to 7 inches, very dark grayish-brown to dark grayish-brown, friable very fine sandy loam; crumb structure.
7 to 28 inches, pale-yellow to light yellowish-brown fine sandy loam mottled with yellow, olive yellow, and yellowish red; weak, blocky structure.
28 to 50 inches +, mottled, light-red, light-gray, and brownish-yellow fine sandy loam; moderate, blocky structure.

Areas under cultivation have a light grayish-brown plow layer. The surface layer varies from very fine sandy loam to loam. The texture of the lower layers ranges from sandy loam to clay loam. Included in the areas mapped are some areas of Goldsboro and Rains soils that are too small to be mapped separately.

This soil is strongly acid. Natural fertility is low, and the organic-matter content is low. The available moisture capacity is moderate. Permeability is moderate to slow in the surface layer. Water moves into and through this soil at a moderate rate. The surface layer has good tilth.

Cultivated areas of this soil need graded rows and W-type ditches for the removal of excess water. Undrained areas are well suited to pasture and to wood crops. Crops respond to good management. (Capability unit IIe–2; woodland group 3; forage site A)

Lynchburg very fine sandy loam, 0 to 2 percent slopes (LyA).—This soil is more poorly drained than Lynchburg very fine sandy loam, 2 to 5 percent slopes. It has much slower runoff and a darker colored surface layer. The surface layer is 7 to 9 inches thick.

If adequately drained, this soil is well suited to cultivated crops. Undrained areas are well suited to pasture and to wood crops. (Capability unit IIw–2; woodland group 3; forage site A)

Made Land

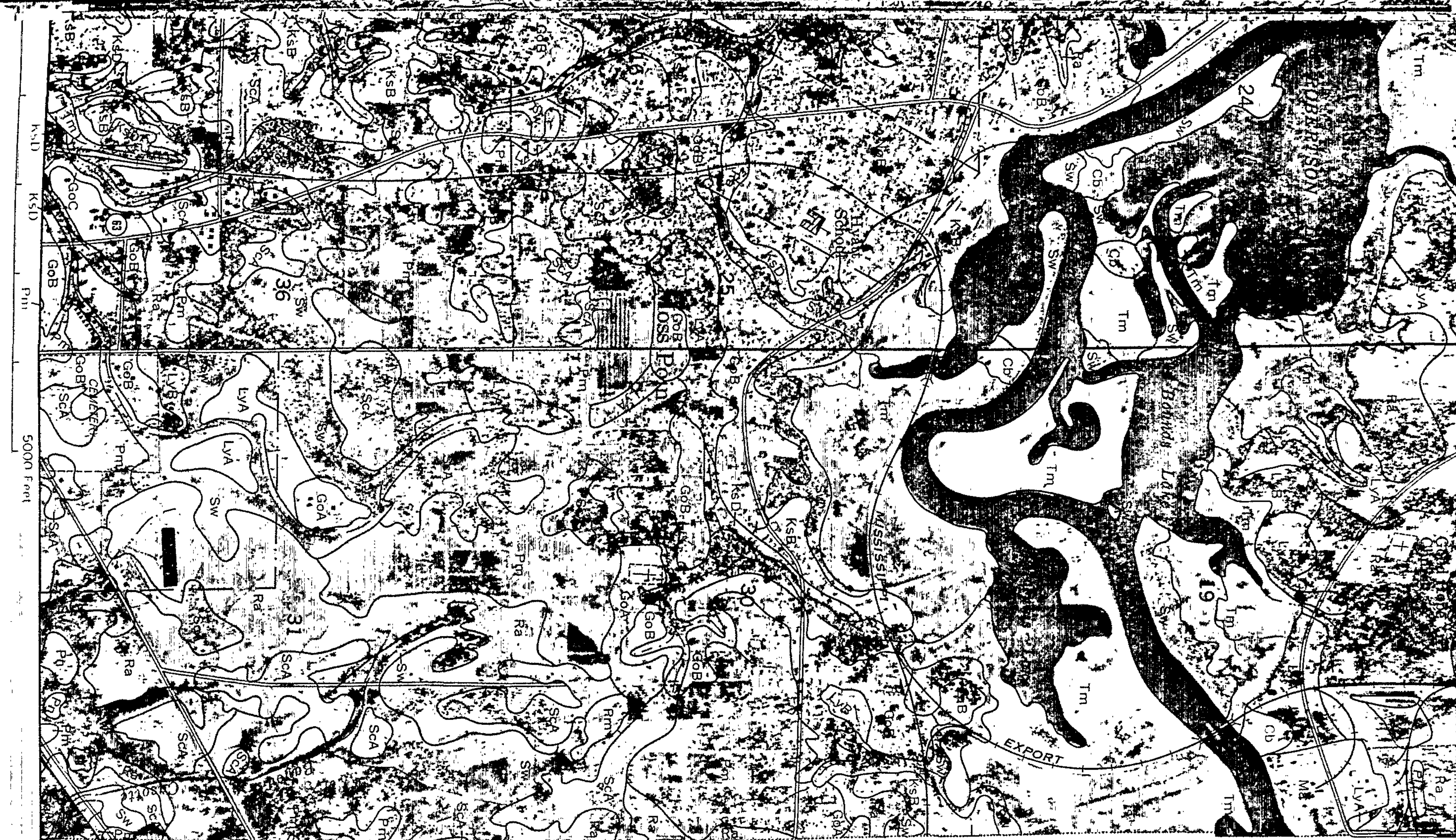
Made land (Ma).—This land type is made up of areas that are along the beaches and marshes and that have been diked and then filled, by pumping, with silt, mud, and sand. After these areas are dry, they are leveled and then they are used for industrial sites and residential sites. (No capability classification)

Norfolk Series

The Norfolk series consists of deep, well-drained soils of the uplands. These soils were formed in thick beds of Coastal Plain material consisting of layers of loamy sand, sandy loam, loam, and sandy clay loam. The surface layer is grayish-brown fine sandy loam, and the subsoil is yellowish-brown, friable sandy loam to loam.

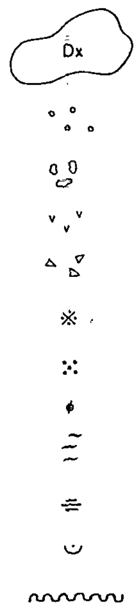
These soils are low in natural fertility, low in organic-matter content, and strongly acid.

Norfolk soils are better drained than Goldsboro soils. They are better drained than Bowie soils and are coarser textured in the lower part of the subsoil. They are finer textured throughout the profile than Lakeland soils. Norfolk soils are yellowish brown, and Ruston soils are yellowish red.



(Joins sheet 63) T. 7 S.

EY DATA



SOIL LEGEND

The first capital letter in each symbol is the initial one of the soil name. A second capital letter, A, B, C, D, or E, shows the slope. Most symbols without a slope letter are for nearly level soils or land types, but some are for soils or land types that have a range in slope.

SYMBOL	NAME
Ad	Alluvial land
Ba	Bayboro silt loam
BoA	Bowie loam, 0 to 2 percent slopes
BoB	Bowie loam, 2 to 5 percent slopes
BoC	Bowie loam, 5 to 8 percent slopes
BoD	Bowie loam, 8 to 12 percent slopes
Cb	Coastal beach
Cx	Coxville silt loam
DbA	Dunbar loam, 0 to 2 percent slopes
DbB	Dunbar loam, 2 to 5 percent slopes
Du	Dune land
EsB	Eustis loamy sand, 0 to 5 percent slopes
EsC	Eustis loamy sand, 5 to 8 percent slopes
EsE	Eustis loamy sand, 8 to 17 percent slopes
EuC	Eustis and Lakeland sands, 0 to 8 percent slopes
EuD	Eustis and Lakeland sands, 8 to 12 percent slopes
FaA	Fairhope very fine sandy loam, 0 to 2 percent slopes
FaB	Fairhope very fine sandy loam, 2 to 5 percent slopes
FaC	Fairhope very fine sandy loam, 5 to 8 percent slopes
GoA	Goldsboro loam, 0 to 2 percent slopes
GoB	Goldsboro loam, 2 to 5 percent slopes
GoC	Goldsboro loam, 5 to 8 percent slopes
Gr	Grady soils
KsB	Klej loamy sand, 0 to 5 percent slopes
KsD	Klej loamy sand, 5 to 12 percent slopes
LaB	Lakeland loamy sand, 0 to 5 percent slopes
LaC	Lakeland loamy sand, 5 to 8 percent slopes
LaE	Lakeland loamy sand, 8 to 17 percent slopes
LyA	Lynchburg very fine sandy loam, 0 to 2 percent slopes
LyB	Lynchburg very fine sandy loam, 2 to 5 percent slopes
Ma	Made land
NoA	Norfolk fine sandy loam, 0 to 2 percent slopes
NoB	Norfolk fine sandy loam, 2 to 5 percent slopes
NoC	Norfolk fine sandy loam, 5 to 8 percent slopes
NoD	Norfolk fine sandy loam, 8 to 12 percent slopes
OrA	Orangeburg fine sandy loam, 0 to 2 percent slopes
PhA	Pheba loam, 0 to 2 percent slopes
PhB	Pheba loam, 2 to 5 percent slopes
Pm	Plummer loamy sand
Pn	Plummer loamy sand, dark surface
Ra	Rains loam, dark surface
RoA	Ruston and Orangeburg fine sandy loams, 0 to 2 percent slopes
RoB	Ruston and Orangeburg fine sandy loams, 2 to 5 percent slopes
RoC	Ruston and Orangeburg fine sandy loams, 5 to 8 percent slopes
RoD	Ruston and Orangeburg fine sandy loams, 8 to 12 percent slopes
RoE	Ruston and Orangeburg fine sandy loams, 12 to 17 percent slopes
Sa	Sandy and clayey land
SbA	Savannah loam, 0 to 2 percent slopes
SbB	Savannah loam, 2 to 5 percent slopes
ScA	Scranton loamy sand, 0 to 2 percent slopes
ScB	Scranton loamy sand, 2 to 5 percent slopes
SuB	Susquehanna, Bowie, and Boswell soils, 2 to 5 percent slopes
SuC	Susquehanna, Bowie, and Boswell soils, 5 to 8 percent slopes
SuD	Susquehanna, Bowie, and Boswell soils, 8 to 12 percent slopes
Sw	Swamp
Tm	Tidal marsh

Soil map constructed 1962 by Cartographic Division, Soil Conservation Service, USDA, from 1958 aerial photographs. Controlled mosaic based on Mississippi plane coordinate system, east zone, transverse Mercator projection. 1927 North American datum

ENDANGERED AND THREATENED SPECIES

U.S. FISH AND WILDLIFE SERVICE

REGION 4 - ATLANTA

REFERENCE 13

Federally Listed Species by State

MISSISSIPPI

(E=Endangered; T=Threatened; CH=Critical Habitat determined)

Mammals	General Distribution
Panther, Florida (*Felis concolor coryi*) - E	Entire state
Whale, right (*Eubalaena glacialis*) - E	Coastal waters
Whale, finback (*Balaenoptera physalus*) - E	Coastal waters
Whale, humpback (*Megaptera novaeangliae*) - E	Coastal waters
Whale, sei (*Balaenoptera borealis*) - E	Coastal waters
Whale, sperm (*Physeter catodon*) - E	Coastal waters

Birds

Crane, Mississippi sandhill (*Grus canadensis pulla*) - E,CH	Southern Jackson County
Eagle, bald (*Haliaeetus leucocephalus*) - E	Entire state
Falcon, Arctic peregrine (*Falco peregrinus tundrius*) - T	Entire state
Pelican, brown (*Pelecanus occidentalis*) - E	Coast
Plover, piping (*Charadrius melodus*) - T	Coast
Tern, least (*Sterna antillarum*); interior population - E	Mississippi River
Warbler, Bachman's (*Vermivora bachmanii*) - E	Entire state
Woodpecker, ivory-billed (*Campephilus principalis*) - E	West, South, East Central
Woodpecker, red-cockaded (*Picoides* (=*Dendrocopos*) *borealis*) - E	Entire state

Reptiles

Alligator, American (*Alligator mississippiensis*) - T (S/A)*	South and West
Snake, eastern indigo (*Drymarchon corais couperi*) - T	South
Tortoise, gopher (*Gopherus polyphemus*) - T	Lower Gulf Coastal Plain (14 counties)
Turtle, Kemp's (Atlantic) ridley (*Lepidochelys kempii*) - E	Coastal waters
Turtle, green (*Chelonia mydas*) - T	Coastal waters

MISSISSIPPI (cont'd)

	General Distribution
Turtle, hawksbill (Eretmochelys imbricata) - E	Coastal waters
Turtle, loggerhead (Caretta caretta) - T	Coastal waters
Turtle, ringed sawback (Graptemys oculifera) - T	Pearl River
Fishes	
Darter, bayou (Etheostoma rubrum) - T	Bayou Pierre drainage
Mollusks	
Mussel, Curtus' (Pleurobema curtum) - E	East Fork Tombigbee River
Mussel, Judge Tait's (Pleurobema taitianum) - E	East Fork Tombigbee River and Buttahatchie River
Mussel, penitent (Epioblasma [=Dysnomia] penita) - E	East Fork Tombigbee River.
Plants	
Lindera melissifolia (Pondberry) - E	Sharkey and Sunflower Counties

*Alligators are biologically neither endangered nor threatened. For law enforcement purposes they are classified as "Threatened due to Similarity of Appearance." Alligator hunting is regulated in accordance with State law.

U.S Fish and Wildlife Service
Vicksburg Office

SPECIES LIST BY COUNTY

E - Endangered Species
T - Threatened Species
P - Proposed Species
C - Candidate Species
CA - Conservation Agreement
CH - Critical Habitat

Reference 13

MISSISSIPPI

Amite	E - Red-cockaded woodpecker (Picoides borealis)
Bolivar	E - Pondberry
Claiborne	T - Bayou darter (Etheostoma rubrum)
Clark	C - Yellowblotched sawback - Graptemys flavimaculata
Copiah	T - Bayou darter (Etheostoma rubrum) T - Ringed sawback turtle (Graptemys oculifera)
Covington	T - Gopher tortoise (Gopherus polyphemus)
Forrest	E - Red-cockaded woodpecker (Picoides borealis) T - Gopher tortoise (Gopherus polyphemus) C - Yellowblotched sawback - Graptemys flavimaculata
Franklin	E - Red-cockaded woodpecker (Picoides borealis)
George	E - Red-cockaded woodpecker (Picoides borealis) T - Gopher tortoise (Gopherus polyphemus) C - Maureen's symnocthebius minute moss beetle C - Yellowblotched sawback - Graptemys flavimaculata
Greene	E - Red-cockaded woodpecker (Picoides borealis) T - Gopher tortoise (Gopherus polyphemus) C - Yellowblotched sawback - Graptemys flavimaculata
Hancock	E - Brown pelican (Pelecanus occidentalis) T - Gopher tortoise (Gopherus polyphemus)
Harrison	E - Red-cockaded woodpecker (Picoides borealis) E - Bald eagle (Haliaeetus leucocephalus) E - Eastern indigo snake (Drymarchon corais couperi) E - Brown pelican (Pelecanus occidentalis) T - Gopher tortoise (Gopherus polyphemus)
Hinds	T - Bayou darter (Etheostoma rubrum) T - Ringed sawback turtle (Graptemys oculifera)
Itawamba	E - Curtus' mussel (Pleurobema curtum) E - Penitent shell mussel (Epioblasma penita) E - Judge Tait's mussel (Pleurobema taitianum) C - Southern clubshell Pleurobema decisum
Jackson	E - Brown pelican (Pelecanus occidentalis) E - Red-cockaded woodpecker (Picoides borealis) E - Mississippi sandhill crane (CH) (Grus canadensis pulla) T - Gopher tortoise (Gopherus polyphemus) C - Yellowblotched sawback - Graptemys flavimaculata

Endangered Species OF MISSISSIPPI

MUSSELS

	Federal Status
Alabama Moccasinshell (*Medionidus acutissimus*)	Threatened (Proposed)
Black clubshell (*Pleurobema curtum*)	Endangered
Inflated Heelsplitter (*Potamilus inflatus*)	Threatened
Orange-nacre Mucket (*Lampsilis perovalis*)	Threatened (Proposed)
Ovate Clubshell (*Pleurobema perovatum*)	Endangered (Proposed)
Southern Clubshell (*Pleurobema decisum*)	Endangered (Proposed)
Southern Combshell (*Epioblasma penita*)	Endangered
Southern Pink Pigtoe (*Pleurobema taitianum*)	Endangered
Southern Round Pigtoe (*Pleurobema marshalli*)	Endangered
Stirrupshell (*Quadrula stapes*)	Endangered

INSECT

American Burying Beetle (*Nicrophorus americanus*)	Endangered

FISH

Southern Redbelly Dace[1] (*Phoxinus erythrogaster*)	None
Bayou Darter (*Etheostoma rubrum*)	Threatened
Crystal Darter (*Crystallaria asprella*)	Candidate, Category 2
Frecklebelly Madtom (*Noturus munitus*)	Candidate, Category 2
Alabama Sturgeon (*Scaphirhynchus suttkusi*)	Candidate, Category 1
Gulf Sturgeon (*Acipenser oxyrhynchus desotoi*)	Threatened
Pallid Sturgeon (*Scaphirhynchus albus*)	Endangered

AMPHIBIANS

Dusky Gopher Frog (*Rana capito sevosa*)	Candidate, Category 1
Cave Salamander (*Eurycea lucifuga*)	None
Green Salamander (*Aneides aeneus*)	Candidate Category 2
Spring Salamander (*Gyrinophilus porphyriticus*)	None

REPTILES

Black Pine Snake (*Pituophis melanoleucus lodingi*)	Candidate Category 2
Eastern Indigo Snake (*Drymarchon corais couperi*)	Threatened
Rainbow Snake (*Farancia erytrogramma*)	None
Southern Hognose Snake (*Heterodon simus*)	None
An Undescribed Redbelly Turtle (*Pseudemys sp.*)	None
Black-knobbed Sawback (*Graptemys nigrinoda*)	None
Ringed Sawback (*Graptemys oculifera*)	Threatened
Yellow-blotched Sawback (*Graptemys flavimaculata*)	Threatened
Gopher Tortoise (*Gopherus polyphemus*)	Threatened
Atlantic Ridley (*Lepidochelys kempi*)	Endangered
Green Turtle (*Chelonia mydas*)	Threatened
Hawksbill Turtle (*Eretmochelys imbricata*)	Endangered
Loggerhead Turtle (*Caretta caretta*)	Threatened
Leatherback Turtle (*Dermochelys coriacea*)	Endangered

Reference 14

BIRDS

Mississippi Sandhill Crane (*Grus canadensis pulla*)	Endangered
Bald Eagle (*Haliaeetus leucocephalus*)	Endangered
Peregrine Falcon (*Falco peregrinus*)	Endangered
Brown Pelican (*Pelecanus occidentalis*)	Endangered
Piping Plover (*Charadrius melodus*)	Threatened
Snowy Plover (*Charadrius alexandrinus*)	Candidate, Category 2
Wood Stork (*Mycteria americana*)	None
Least Tern[2] (*Sterna antillarum*)	Endangered
Bachman's Warbler (*Vermivora bachmanii*)	Endangered
Ivory-billed woodpecker (*Campephilus principalis*)	Endangered
Red-cockaded Woodpecker (*Picoides borealis*)	Endangered
Bewick's Wren (*Thryomanes bewickii*)	None

MAMMALS

Gray Bat (*Myotis grisescens*)	Endangered
Indiana Bat (*Myotis sodalis*)	Endangered
Black Bear (*Ursus americanus*)	Threatened
West Indian Manatee (*Trichechus manatus*)	Endangered
Florida Panther (*Felis concolor coryi*)	Endangered
Whales, Order Cetacea, excluding Family Delphinidae	

PLANT

Pondberry Spicebush (*Lindera melissifolia*)
Price's Potato Bean (*Apios priceana*)

[1]West Mississippi disjunct population
[2]Interior population nesting along the Mississippi River

Endangered Species of Mississippi
Miss. Department of Wildlife, Fisheries & Parks
Museum of Natural Science
111 North Jefferson Street
Jackson, MS 39201
(601) 354-7303

Funded in part by:
US Fish and Wildlife Service

EPA in cooperation with Mississippi Department of Agriculture and Commerce, Bureau of Plant Industry

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1992

U.S. DEPARTMENT OF COMMERCE
FREDERICK H. MUELLER, *Secretary*

WEATHER BUREAU
F. W. REICHELDERFER, *Chief*

TECHNICAL PAPER NO. 37

Evaporation Maps for the United States

M. A. KOHLER, T. J. NORDENSON, and D. R. BAKER
Hydrologic Services Division

WASHINGTON, D.C.
1959

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. - Price 65 cents

REFERENCE 15

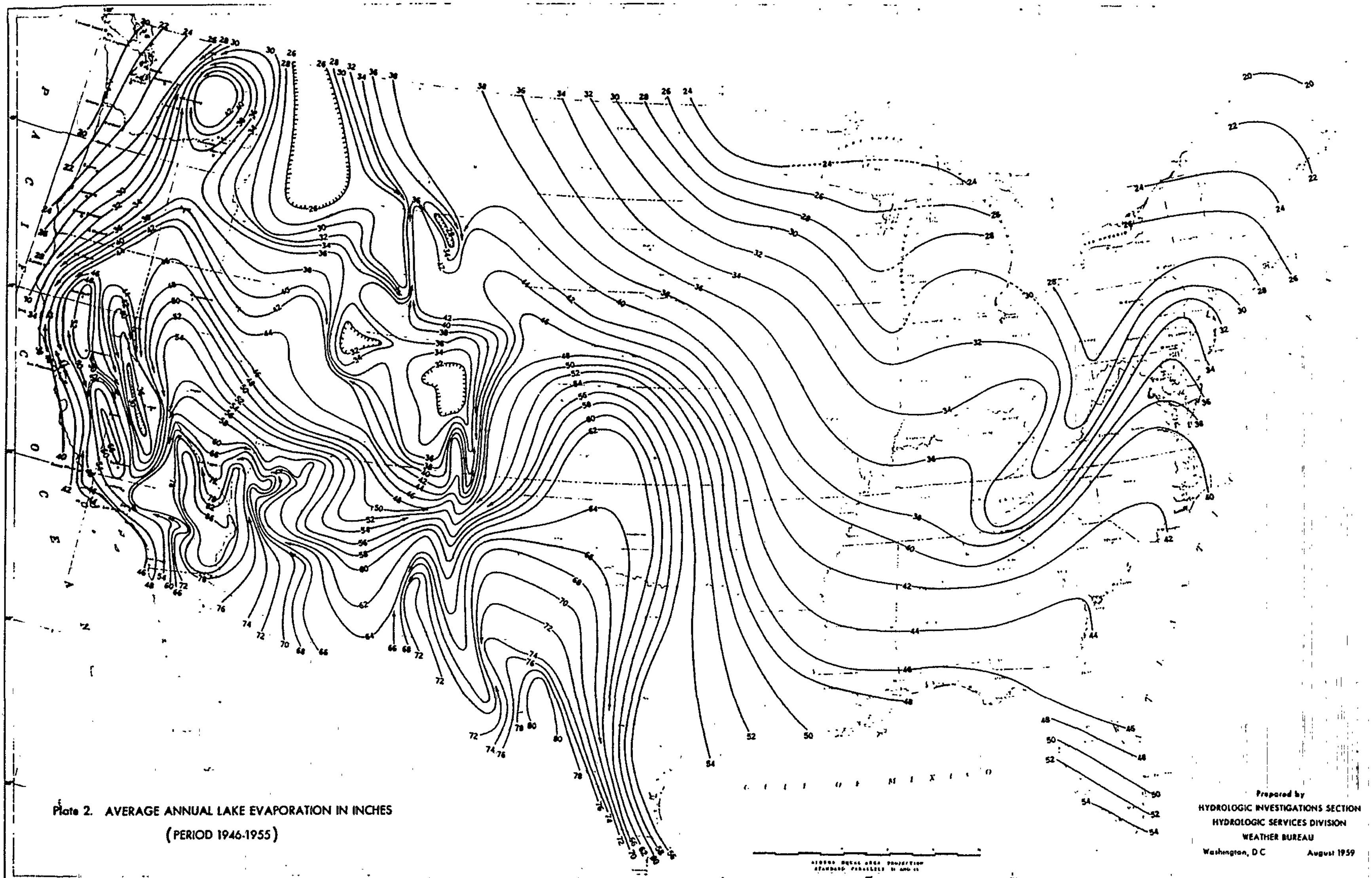


Plate 2. AVERAGE ANNUAL LAKE EVAPORATION IN INCHES

(PERIOD 1946-1955)

Prepared by
HYDROLOGIC INVESTIGATIONS SECTION
HYDROLOGIC SERVICES DIVISION
WEATHER BUREAU
Washington, D.C. August 1959

Plate 2.

525189 O-59 (Face Blank p. 14) No. 2

MISSISSIPPI
STATE GEOLOGICAL SURVEY

WILLIAM CLIFFORD MORSE, Ph.D.
Director

BULLETIN 60

GEOLOGY AND GROUND-WATER RESOURCES of the COASTAL AREA IN MISSISSIPPI

by

GLEN FRANCIS BROWN, VELORA MEEK FOSTER, ROBERT WYNN ADAMS,
EDWIN WILLIAM REED, HAROLD DEMENT PADGETT, JR.

In cooperation with the
United States Geological Survey

UNIVERSITY, MISSISSIPPI
1944

Reference 18

Specific acknowledgments to drillers who furnished well records published in this report are given in the tables of logs and well records (Tables 13-18).

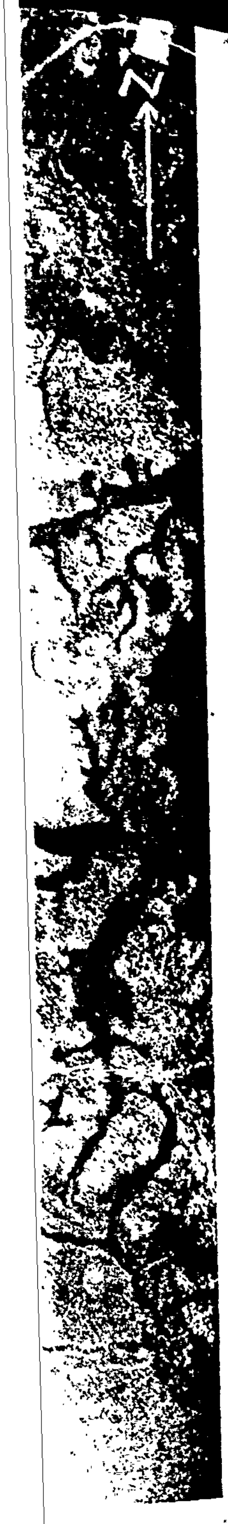
GEOMORPHOLOGY

GENERAL FEATURES OF THE COASTAL BELT

The three broad divisions of land-forms in the small portion of the Gulf coastal plain here considered are the long leaf pine hills, the coastal pine meadows, and the alluvial plains of the larger streams, principally the Pearl and Pascagoula Rivers. The alluvial plains merge with the coastal pine meadows; both are relatively flat and locally swampy. The coastal pine meadows lie 5 to 30 feet above the sea; the alluvial plains rise northward to an altitude of 50 feet along Pascagoula and Escatawpa Rivers and to 100 feet along the Pearl River. Both the coastal meadows and the alluvial river bottoms are bordered by salt-water mashes, the largest areas being the estuarine mouths of the Pearl and Pascagoula Rivers. The long leaf pine hills rise from 30 to 370 feet above mean sea level. They include stream-cut terraces along the trunk streams and high terrace deposits which extend across the area in a pattern suggesting distributary ridges. Most of the upland topography is the result of recent erosion on weak beds of clay, silty clay, and sandy clay of the Miocene-Pliocene-Pleistocene estuarine and deltaic sediments which underlie it (Plate 4).

The soils have been described as light-colored,[6] sandy types of loam predominating even in areas where the clays of the Miocene, Pliocene, and Pleistocene series are exposed in stream beds. The dark-colored and heavy soils are limited to the swamps and flats underlain with clay where the water table is high and drainage is poor. In most areas the soils are acid, because lime carbonate was originally lacking; in other minor areas, because it was subsequently leached out.

Nearly all of the area has been deforested, most of it since 1900. Long leaf pine formerly predominated on the uplands but was mixed with slash and short leaf pine on the lower terraces. The bottom lands were covered with a variety of deciduous hardwood trees, such as several species of gum and oak, and with evergreens, such as pine, live oak, magnolia, holly, and cypress. Gum, cypress, magnolia, and



rn on the clay terrain of ...
y pit is at the center of ...
lge) is 172 feet (Locality ...
Photo courtesy U. S. Depar...
le 1:20,000.

maple are common in the swampy areas where some primitive stands remain because of their inaccessibility. Pine through reforestation and pecan groves, tung trees, and fruit orchards through cultivation now comprise a substantial part of the vegetation. Of the shrubs, saw-tooth and blue palmetto are conspicuous on sandy terrain; and various grasses and sedges dominate the brackish and salt-water marshes where trees are absent.

LONG LEAF PINE HILLS

SURFACE OF THE CITRONELLE FORMATION

The highest upland in the coastal area is on top of the Citronelle formation, a terrace deposit seemingly of fluvial origin. East of the Pascagoula River in George County three benches on this upland lie at altitudes of 200 to 230 feet, 260 to 280 feet, and 300 to 310 feet, the benches sloping upward toward the northeast. In Greene County the upper bench slopes upward to approximately 335 feet; and near Citronelle in Mobile County, Alabama, to approximately 340 feet. West of the Pascagoula River and north of Red Creek the beveled crests slope upward to the northwest, being 160 to 205 feet in northwestern George County, 85 to 230 feet west of Bluff Creek in eastern Stone County, and 170 to 325 feet along U. S. Highway 49 through Wiggins in central Stone County. In western Stone and northeastern Pearl River Counties the crest elevations extend from approximately 230 feet to 370 feet. Doubtless there are benches on this western upland, but they cannot readily be recognized without topographic maps. In southern Pearl River and northern Hancock Counties the Citronelle formation has been warped down in a southwesterly direction until its upper surface disappears beneath younger deposits or is truncated by more recent erosion at altitudes of 60 to 90 feet. In Harrison and western Hancock Counties the crests of deposits, lithologically similar to the Citronelle and mapped with it, drop from heights of about 270 feet (as just across the line in southern Stone County) to about 50 feet where they disappear beneath younger deposits—declines similar to those in eastern Stone and western George Counties.

The greater part of the Citronelle formation is porous sand and gravel; consequently, rain seeps into the ground and erosion has been hindered, particularly prior to deforestation; thus, the upland remains youthful, preserving dune and original depositional features.

the building of sand bars by east-to-west shore-wise drift as suggested by C. Wythe Cooke.

RECENT BEACH AND ISLAND TOPOGRAPHY

Shore-wise currents in the Gulf have formed off-shore bars of sufficient height to be further elevated by the waves into sand spits, and by the southern winds to higher dunes and elongated east-west islands. Dunes on Petit Bois Island, which is 7 1/2 miles long, rise to 20 feet above mean sea level at only one point on the western end; other dunes of heights above 10 feet extend along the southern edge and along part of the northern shore near the eastern end of the island. Much of the eastern part of the island has been washed away since 1921. Horn Island, which is 13 miles long, has several dune peaks above 20 feet, but of very limited extent, and much of the inter-dune area is occupied by brackish water ponds. Ship Island, which is 8 miles long, is about the same general elevation of Horn Island or slightly lower than it. Much of the northern shore of Ship Island is a low cliff which—in at least one place about 3 miles east of Fort Massachusetts where E. N. Lowe photographed a flowing well prior to 1915—has migrated south about 100 yards, leaving the well in Mississippi Sound (Harrison 203, Table 15). Cat Island, westernmost of the barrier islands, is unique in that its eastern portion is a 4-mile spit and dune belt which is perpendicular to the coast. W. T. Penfound and M. E. O'Neill described the island in 1934 as follows:[9]

"Cat Island comprises an area of about seven square miles. It consists of two east-west axes attached at their eastern extremities to a long, narrow, north-south axis which is convex on the gulf side. The more northerly east-west spit is composed of two to sixteen sand ridges from four to ten feet in height and from a few feet to an eighth of a mile in width. These alternate with parallel depressions in which the floor is usually wet and often continuously covered with water, in some places to a depth of six feet. The other spit includes fewer and lower sand ridges and is mainly marshy in character.

"The north-south spit is very different from either of the foregoing. It is composed of an eroding shoreline on the gulf side, various hillocks and dunes on the interior, and a zone of deposition on the western shoreline. On the gulf shoreline ghost forests of pine and oak extend more than a hundred feet into the gulf, and black, peaty soil, which could have been formed only in the marshes, is a conspicuous feature of the lower beach. The dunes vary from small haystack dunes a few feet in height to wandering, barr[illegible] dunes of considerable extent and up to forty feet in height. They are composed

Figure 7.—The eroded beach at Bellefontaine Point showing encroachment of the sea on a former forest of pine and cypress (Locality U, SW. 1/4, SW. 1/4, Sec. 19, T. 8 S., R. 7 W.), Jackson County.

of a glistening fine to medium white sand with a negligible quantity of organic matter and often very low water content. Throughout the dune area many blow-outs occur, and the Island is constantly changing in topography. At the junction of the east-west spits with the north-south axis the sand is advancing steadily over the marsh. This fact, together with the presence of peaty soil and ghost forests on the gulf shoreline, indicates that the island is gradually moving westward."

On the mainland the recent rise in sea level has submerged much of the lower beach deposits and at the present time is actively eroding the headlands (Figures 7, 8). The beach ridges along the present shore doubtless owe part of their present height (up to [illegible] feet) to Recent wind-blown sand, but the base may have been formed as true beach ridges when the Gulf stood at a slightly higher level or during storms at its present level.

CHART OF GEOLOGIC FORMATIONS CONTAINING FRESH WATER IN THE COASTAL AREA OF MISSISSIPPI

Series	Formation	Known Thickness (feet)	Physical Character	Hydrologic Properties
Pleistocene and Recent	Alluvium	0-35+	Chert and quartz gravels and sands grading up into sandy clays and silt. Much organic debris including sawdust near and in the tidal marshes.	Contains large undeveloped supplies especially attractive because of uniform low temperature (70°F.) throughout the year. The southernmost portions of the Pascagoula River alluvium are known to contain salty water, and the other estuaries are probably similar; consequently large developments should be located with care.
Pleistocene	Pamlico Sand	1-75	Mostly unconsolidated gray and tan sand; locally contains pebbles of quartz and chert and, in former lagoonal areas, much clay and silt.	Contains much water in the beach areas under water-table conditions and in contact with salt water. In many places the supply has been contaminated with sewage, but would be suitable for air-conditioning if salt-water connection is considered.
	Low Terrace Deposits	0-20	Sand derived from beach deposits, locally sprinkled with pebbles of quartz and brown chert.	Insufficient thickness and areal extent to yield other than small shallow wells for domestic and stock consumption.
	High Terrace Deposits	0-100	Sand and gravel wherein quartz is more abundant and chert less abundant than in the older adjacent *Citronelle formation; locally an iron-cemented conglomerate* at the base.	Small farm supplies are derived from the High terrace deposits. The elevated position facilitates *drainage through springs and effluent seepage, so* that only the lower few feet are saturated.
	Citronelle Formation	0-160	Brick-red sand and gravelly sand; the pebbles are mostly brown chert and milky quartz; generally cross-bedded, and, in the lower part, contain thin beds and pockets of gray clay and clayey gravel.	Numerous small farm supplies derived from a few feet of saturated sand and gravel in the lower part of the formation. Salt-water encroachment ruined a supply at Moss Point which probably came from a finger of the Citronelle gravel.
Pliocene and Pleistocene	Graham Ferry Formation	113-975	*Silty clay and shale, sand, silty sand, and gravelly* sand and gravel in heterogeneous deltaic masses; various colors, generally dark; carbonaceous clay most abundant in the outcrops; marine fossil casts in the upper beds are common.	*The most intensively developed formation, containing water under artesian pressure throughout* southern part of the area. Most water for war purposes has come from the Graham Ferry, and there is no evidence of excessive development.
Miocene	Pascagoula Formation	800-1,300	Clay and shale, generally blue-green, silt, sandy shale, gray and green sand, gray silty clay, and dark sandy gravel containing numerous grains and pebbles of polished black chert; of estuarine or deltaic origin; identified for the most part by a brackish water clam, Rangia johnsoni.	About 40% of water produced in the coastal area has come from artesian sources within the Pascagoula formation. The eastern part, Jackson and eastern Harrison Counties, contains some brackish water, the salt content increasing with depth and towards the east.
	Hattiesburg Formation	350-1,500	Gray-green and blue-green shale and clay, gray sand and silt, mostly carbonaceous and noncalcareous—of a more continental origin than overlying beds.	Undeveloped supplies along the crest of the Wiggins-Lucedale anticline in the northern part of the area. The remainder of the formation contains brackish or salt water
	Catahoula Sandstone [illegible]	[illegible]	Shale, sandy shale, sand, clay and silt, and gravelly [illegible] containing black chert.	The uppermost Catahoula sandstone contains fresh water on the crest of the Wiggins-Lucedale anticline, [illegible]

PLIOCENE AND PLEISTOCENE SERIES

GRAHAM FERRY FORMATION

GENERAL FEATURES

The name Graham Ferry formation is given to a series of deltaic sediments above the Pascagoula formation and below the Citronelle formation. The stratigraphic relationship to the overlying Citronelle

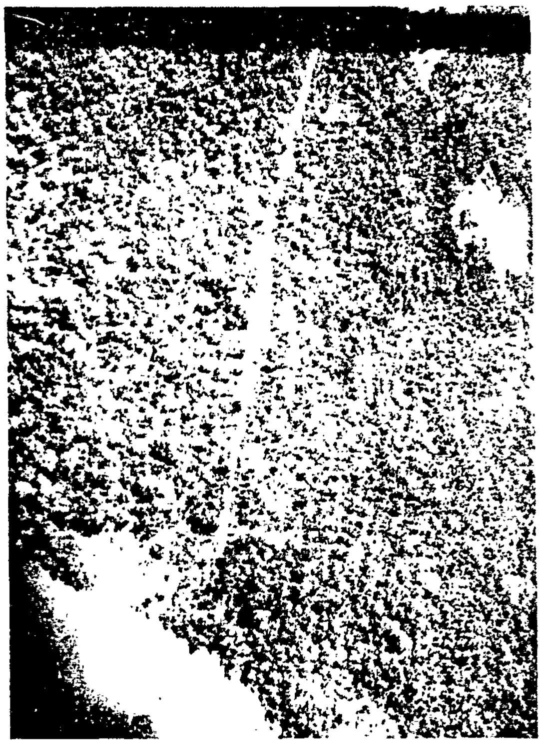


Figure 13.—Type section of Graham Ferry formation exposed in bluff beneath power line, west bank Pascagoula River (Locality R, near center of irregular Sec. 38, T. 5 S., R. 7 W.), Jackson County. View toward northwest from an altitude of 1,500 feet.

is disconformable, the relationship to the underlying Pascagoula not clear; but the unit includes beds that contain fossils of both Pliocene and Pleistocene age, according to Julia Gardner of the U. S. Geological Survey. Exposures extend north from the coastal pine meadows into the hills of southern Stone County and into a large part of Pearl River County, an area bounded on the northeast by Red Creek but not sufficiently distinctive to be separated from the Pascagoula terrain. The Graham Ferry formation ranges in thickness from 113 feet in eastern Jackson County to 975 feet at Gulfport. Doubtless the formation is much thicker farther west, but wells have not penetrated the entire thickness. The sediments of the Graham Ferry are heterogeneous and, like most deltaic formations, include both continental and marine beds. Continental and brackish water deposits predominate, although the type locality (Figures 12, 13) contains numerous marine fossils. Silty clay and shale, sand, silty sand, and gravelly sand are included. Most exposures of clay and shale, as well as argillaceous sand, contain carbonaceous fragments of plants, in several places associated with casts of mollusks, particularly *Barnea Costata,* and *Chione* sp. Two instructive exposures on the west bank of Pascagoula River in Jackson County are 1 mile apart and contain the same fossil bed near the top. The northern of these is locally known as Rice Bluff and is 1 mile downstream from White's Camp (Figure 12).

SECTION AT RICE BLUFF, 1 MILE BELOW WHITES CAMP, WEST BANK OF PASCAGOULA RIVER (LOCALITY Q, NW. 1/4, NW. 1/4, IRREGULAR SEC. 38, T. 5 S., R. 7 W.), JACKSON COUNTY.

	Feet	Feet
Citronelle (?) formation		60
Sand, gravelly loose gray and tan; rises back from the cliff face	60	
Graham Ferry formation		51
Clay, dark carbonaceous; contains plant fragments; grades down into fine sand	5	
Sand, fine; much is leached but contains concretions and fossil casts in the upper part; *Pecten (Plagioctenium), Irradians lamarck?*, and numerous other bivalves	8	
Shale, carbonaceous silty; dark-gray fine sand; grades into large cross-bedding	8	
Sand, gray silty; a vertical face	5	
Sand, interbedded with laminated silts and clays; contains numerous magnetite grains and weathers gray and tan. Clay is dark-gray and unweathered	19	
Clay, massive gray, blue-gray; unweathered	6	

A mile farther downstream another section is exposed, where an elevated power line crosses Pascagoula River (Figure 13).

Section of West Bank of Pascagoula River At The Power Line (Locality R, Near Center of Irregular Sec. 38, T. 5 S., R. 7 W.), Jackson County.

	Feet	Feet
Citronelle (?) formation		25.0
Sand, quartz and chert; seep springs at base	25.0	
Graham Ferry formation		19.0
Clay, gray and blue-gray; sluffs down the slope	5.0	
Sand, gray fine much leached; contains casts and molds of *Pecten* (*Plagioctenium*), *Irradians lamarck?*, *Pecten* sp., *Chione* sp., and other fossils	4.5	
Silt, clayey; weathers brown and yellow with circular and elliptical markings	3.5	
Sand, fine, and interbedded clay	2.0	
Clay, steel blue massive	4.0	
Landslip of clay and silt		19.8
Covered	4.3	
Clay and silt from above	12.5	
Covered; flat at flood plain	3.0	

Altitude of base of section 15 feet.

Midway between the two bluffs is an old river crossing locally known as Graham Ferry, the name used here for the clays, silts, and sands above the Pascagoula formation and below the terrace deposits.

A mile still farther south on the west bank of Pascagoula River (Locality R_1) 18 feet of medium sand somewhat coarser at the base overlies the blue clay and strikes northwest into it. The sand, which is cross-bedded and has a salt-and-pepper appearance, is probably an updip extension of one of the sands of the Graham Ferry formation which yields water copiously along the coast.

In Harrison County the Graham Ferry deposits may also be seen along the channel of Tchoutacabouffa River north of Biloxi. The sandy clay in the stream bed 5 miles north of Biloxi (Locality O, SE. 1/4, SE. 1/4, Sec. 33, T. 5 S., R. 9 W.) contains leaf fragments, molds of *Barnea costata* (Linnaeus), *Chione* sp., and other pelecypods. At a bridge across Saucier Creek (Locality N, SE. 1/4, SW. 1/4, Sec. 16, T. 5 S., R. 11 W.), 3 miles southeast of Saucier, molds of *Barnea costata*, *Chione* sp., *Corbula* sp., other pelycypods and a fish tooth were collected from 12 feet of clay of the Graham Ferry formation. Like the Tchoutacabouffa River, the Wolf River in western Harrison and eastern Hancock Counties flows over the Graham Ferry formation, but more than a few feet of the clays, clayey sands, and silty sands are seldom exposed. One locality (K, NW. 1/4, SE. 1/4, Sec. 5, T. 6 S., R. 13 W., Harrison County) contains numerous leaves and *Barnea costata*.

Farther west in Harrison County clays and silts of the Graham Ferry formation are exposed along the stream beds and lower banks, as at Big Biloxi Creek on U. S. Highway 49, 14 miles north of Gulfport.

SECTION AT BIG BILOXI BRIDGE ON U. S. HIGHWAY 49 (LOCALITY M, SE. 1/4, SE. 1/4, SEC. 31, T. 5 S., R. 11 W.), HARRISON COUNTY.

	Feet	Feet
Citronelle (?) formation		11-35
Sand, gravelly red-brown; cross-bedded to the south	3-10	
Clay and sand, mottled gray, tan, and purple; seemingly a weathered and reworked zone of the top of the Graham Ferry formation	8-25	
Graham Ferry formation		47
Clay and silt, gray and massive; contains scattered grains of quartz sand	40	
Shale and minor sand, interbedded blue and blue-gray; the shale contains plant fragments and molds of two pelecypods; 1/2 mile upstream at Big Biloxi Park, these beds are darker, well-bedded and carbonaceous. Small crystals of gypsum are common on the bedding planes	7	

In Hancock County the Graham Ferry formation, exposed in the vicinity of Kiln, is gray somewhat silty clay and minor fine gray sand. Along Bell Creek in the northeastern part of the county, and in the lower part of the formation, fetid black shale and silt, containing a few thin lenses (1 or 2 inches thick) of fine gray sand and numerous plant fragments and worm borings, grade upward into blue-gray clay and silty sand (Figure 14). About 50 feet of Graham Ferry strata are exposed above the stream bed and along the secondary road south of Sellers School (Locality J, NE. 1/4, SW. 1/4, Sec. 25, T. 5 S., R. 14 W.), Hancock County.

In Pearl River County bedded silty clays and sands are more common, although clay is predominant. Along the county road 3 miles south of Strahans Corner in the western part of the county (Locality I, SW. 1/4, Sec. 26, T. 3 S., R. 18 W.), the apparent dip of bedded silt is 15° south. At this place noncalcareous fucoid-like concretions are numerous. Sand considered to belong to the Graham Ferry formation is exposed in a bluff above Pearl River at the northwestern corner of the county.

Of the 39 species, identified by Cushman, of foraminifera from wells in the coastal area (Table 2) all are from the Graham Ferry formation except possibly those from below 1,000 feet in Harrison County well 160 and from below 790 feet in Jackson County well 62; 15 are common both to the Caloosahatchee marl (Pliocene of Florida) and Recent West Indian faunas.[25] Also included are 5 species which W. S. Cole describes from Pleistocene and Pliocene deposits in

Figure 14.—Nonmarine shale and silt of the Graham Ferry formation in the bank of Bell Creek (Locality J, NE. 1/4, SW. 1/4, Sec. 25, T. 5 S., R. 14 W.), Hancock County.

Florida; namely, *Elphidium poeyanum*, *Rotalia beccarii* var. *parkinsoniana*, *Discorbis floridana* (very rare at one Florida locality), *Quinqueloculina lamarckiana*, and *Angulogerina occidentalis*. Howe and R. O. Vernon[26] have listed 16 species of foraminifera from Holmes and Washington Counties, Florida, which are given here and which are assigned to the Choctawhatchee (upper and middle Miocene) and the Alum Bluff (middle and lower Miocene) by Vernon. These species are *Angulogerina occidentalis*, *Asterigerina carinata*, *Buliminella curta*, *Buliminella elegantissima*, *Cibicides concentricus*, *Discorbis floridana*, *Elphidium advenum*, *Elphidium incertum*, *Elphidium*

TABLE 2

FORAMINIFERA FROM WELL CUTTINGS IN HARRISON AND JACKSON COUNTIES AND NEARBY ISLANDS
DEPTH INTERVALS OF SAMPLES CONTAINING FOSSILS IN FEET BELOW WELL COLLARS

LOCATION OR OWNER COUNTY WELL NUMBER	Cat Island Harrison 199	U. S. Naval Depot 2 Harrison 161	Biloxi Harrison 115	Lamey Jackson 14	Magnolia Park Jackson 75	Moss Point Jackson 62	Pascagoula Jackson 107	Horn Island Jackson 112	Horn Island Jackson 113
Angulogerina occidentalis	....	....	....	....	....	....	....	47– 69	44– 68
Asterigerina carinata	....	....	....	....	....	....	....	47– 90	....
Bolivina pulchella var. primitiva	....	....	....	....	....	....	....	24– 90	23– 44
Bolivina rhomboidalis	....	....	....	....	....	....	....	47– 69	....
Bolivina sp.	42–638	....	....	....	70– 80	....	....	....	....
Buliminella cf. curta	638–661	....	....	....	....	....	....	....	....
Buliminella curta	117–752	....	....	....	....	....	....	....	....
Buliminella elegantissima	93–706	....	900– 920	....	90–140	....	....	24– 90	44–422
Cibicides americanus	117–417	....	540– 700	....	....	....	....	....	....
Cibicides concentricus	42–661	....	20– 860	....	60–230	....	....	....	90–665
Cibicides cf. pseudoungerianus	136–160	....	....	....	....	....	....	....	....
Cibicides pseudoungerianus	....	....	540– 560	....	....	....	....	....	....
Discorbis floridana	....	....	....	....	....	....	....	47– 69	....
Discorbis sp.	....	....	....	....	40– 50	....	....	....	....
Elphidium advenum	....	....	160– 440	....	....	....	....	....	....
Elphidium cf. gunteri	....	....	320– 400	....	....	....	....	....	....
Elphidium cf. poeyanum	685–706	....	340–1040	....	....	36– 87	....	....	....
Elphidium gunteri	....	....	....	....	....	....	....	111–289	55– 65
Elphidium gunteri var. galvestonense	42–136	....	....	....	80–130	....	....	....	....
Elphidium incertum	....	1006–1288	460–1040	....	....	....	....	111–301	....
Elphidium incertum var. mexicana?	266–460	....	160– 180	....	40–150	....	....	....	....
Elphidium poeyanum	....	....	20– 580	....	....	....	....	....	....
Elphidium sp.	616–861	567–1288	20–1225	130– 240	30–440	....	382–408	....	....
Entosolenia orbignyana	....	....	....	....	....	....	282–292	....	....
Eponides sp.	638–661	....	....	....	....	....	....	....	....
Globigerina bulloides	731–752	....	....	....	80– 90	....	....	....	....
Guttulina pulchella	460–482	....	....	....	....	....	....	154–644	....
Guttulina sp.	436–460	....	....	....	....	....	....	....	....
Gyroidina sp.	....	....	....	....	220–230	....	....	....	....
Loxostomum mayori?	....	....	....	....	....	....	....	....	641–663
Massilina sp.	....	....	800– 820	....	....	....	....	....	....
Nonion depressula var. matagordana	42–200	....	....	....	....	....	....	....	....
Nonionella auris	....	....	....	....	....	....	....	24– 47	....
Nonionella sp.	222–706	....	....	....	....	....	....	....	....
Quinqueloculina costata	222–244	....	....	....	....	....	....	....	....
Quinqueloculina cf. lamarckiana	93–117	....	360– 380	....	....	....	....	....	....
Quinqueloculina lamarckiana	222–752	....	100– 140	....	....	....	....	....	....
Quinqueloculina seminula	....	....	160– 520	....	....	....	....	....	....
Quinqueloculina sp.	68–661	....	60– 900	....	....	....	....	....	....
[illegible] sp.	....	....	....	....	....	....	....	47– 69	....
Rotalia beccarii	288–661	....	120– 480	....	....	....	....	24– 90	....
Rotalia beccarii var. parkinsoniana	....	1028–1288	200–1120	130–1094	40–370	30–790	....	154–751	....
Rotalia beccarii var. tepida	42–136	....	....	....	50–130	....	....	....	44–775
Rotalia? Rotalia sp.	....	567– 580	280– 300	....	520–530	....	....	....	....
Textularia [illegible]	....	....	460–1060	180– 240	....	....	....	....	....
Textularia mayori	93–117	....	1020–1040	....	....	....	....	466–751	....
[illegible]	[illegible]	....	880– 880	....	....	....	....	....	....

poeyanum, *Quinqueloculina costata*, *Quinqueloculina lamarckiana*, *Quinqueloculina seminula*, *Rotalia beccarii* var. *tepida*, *Textularia gramen*, *Textularia mayori*, and *Triloculina oblonga*. Cole[27] lists seven of these species, among others, from a water well at Port St. Joe, Gulf County, Florida, within the depth interval 130 to 145 feet and assigns the interval to the Pliocene.

The species of foraminifera found in wells along the coast of Mississippi Sound and on the islands (Table 2) range in age from Miocene to Recent. Apparently none are diagnostic of any epoch. The same species of foraminifera which R. C. Bridges[28] assigned to the Pleistocene and which came from a brackish and marine fauna in wells in Livingston Parish, Louisiana, are also present in the samples from south Mississippi. Publication of specific determinations of other fossils from Bridges' samples would be especially valuable in view of the recent tendency of some authors working in Louisiana to describe all deposits above the Miocene as of Quaternary age[29, 30], although Howe and McGuirt[31] have been more cautious in describing a "deep-water fauna" within the Mississippi delta and from the depth interval 1,030 to 1,074 feet in Humble Oil Company's Cockrell-Moran No. 11 well (T. 20 S., R. 26 E., Lake Washington Dome, Plaquemines Parish, Louisiana), as Pleistocene or Pliocene, leaving as a possibility that it may be an off-shore assemblage of "some horizon which carries littoral foraminifera in areas farther north." Their list of 61 species from this well includes 10 of those given here from south Mississippi.

Miss Gardner briefly examined mollusks from cuttings in wells drilled to 819 and 836 feet on Horn Island and writes as follows:

"The species that I have been able to determine are Pleistocene or Recent forms. Many, though I think not all of them, have been recognized in Pliocene faunas. *Rangia johnsoni* is uncommonly well characterized, and I think I should have caught it, if it were present. The Pliocene to Recent *Rangia cuneata* is present in a number of samples."

Cushman comments on the foraminifera from cuttings at the Gulfport U. S. Naval Depot 2 (Table 2) as follows:

"The specimens are few and not too well preserved and . . . have only two species, *Elphidium incertum* which occurs in a number of samples, and *Rotalia beccarii* var. *parkinsoniana*, in all samples from 1,028 to 1,288 feet. Cole gives the latter as common in the Pliocene of Florida and rare in the Pleistocene. *Elphidium incertum* is given as abundant in the Pleistocene and common in the Pliocene."

The presence of the hornblende assemblage of W. M. Cogen[32] in many of the deeper cuttings is probably not diagnostic, but he shows the hornblende zone above the top of the Miocene in the Continental Oil Company et al O. C. Hebert No. 1, Vermilion Parish, Louisiana, and through 2,550 feet of Pliocene in the Shell Petroleum Corporation's B. C. Hebert et al No. 1, Vermilion Parish, Louisiana. He states further that R. D. Russell's[33] description of the heavy-mineral assemblage carried by the Mississippi River closely resembles the subsurface hornblende assemblage, and the heavy-mineral assemblage from Recent deltaic sediments in St. Bernard and Plaquemines Parishes contains significant quantities of hornblende as well as all the other minerals of Cogen's hornblende zone.[34]

Thus, it would appear that the base of the hornblende zone might have correlative value but not the top—unless there is a non-hornblende zone somewhere beneath the subdeltas described by C. F Dohm and above Cogen's zone. The cursory examination of rotary cuttings from the Mississippi coastal area did not show such a break, but much more work needs to be done.

HYDROLOGY

More than one half the artesian wells on the coastal area derive water from the coarser clastic beds of the Graham Ferry formation, especially from the basal sands and gravels. This aquifer of sands and gravels has produced more water than any other, and has borne the brunt of increased pumpage for war needs. In 1939 the natural pressure of the basal Graham Ferry raised water in wells a measured maximum of 70 feet above mean sea level at Bay St. Louis, 58 feet at Pass Christian, and 48 feet in western Biloxi, a gradient to the east except around Gulfport, where a local depression reversed the slope. In Biloxi, the piezometric surface declined approximately from 48 feet to 33 feet and toward the east continued downward to 20 feet below sea level at Moss Point. At the present time it stands 49 feet above the sea level on Horn Island. Thus an average overall gradient to the east of 1 3/4 feet per mile is suggested, accompanied by little movement of the water in a southeasterly direction along a line from Pass Christian to Horn Island. Along a line north through Gulfport the piezometric surface was approximately 20 feet at Cat Island and 58 feet near Lyman, a gradient of 2 feet per mile to the south. The altitude of the recharge area suggests that the initial shape of the piezometric surface was in general similar to its present shape. except for a present general decline of 20 to 30 feet in the areas of greatest production along the beach. Local cones of depression resulting from heavy pumpage have exceeded these figures, and the extension of the cones at the present (1944) rate of pumping will doubtlessly cause more widespread lowering.

The general magnitude of the coefficients of transmissibility and storage of the aquifer at Keesler Field, Biloxi, was determined by computations based on water-level measurements and pumpage data.

Calculations from the recovery of water level in three of the wells at Keesler Field indicate a coefficient of transmissibility of about 22,000 gallons per day per foot—coefficient of transmissibility being defined as the volume of water that will move in unit time through a vertical strip of the aquifer of unit width under a hydraulic gradient of 100 percent; and further calculations indicate a coefficient of storage of approximately 0.006—coefficient of storage being defined as the volume of water discharged from each vertical prism of the aquifer of unit cross-sectional area as the water level falls one unit of distance. The coefficient of transmissibility is considerably lower than the average value of the coefficient determined at Camp Shelby[35, 36] and Camp Van Dorn. This condition may be explained in part by the fact that the sand beds at both Camp Shelby and Camp Van Dorn are thicker than those developed at Keesler Field and in part by the fact that the sands from Camp Shelby and Camp Van Dorn are more permeable than those of the Graham Ferry formation near Keesler Field as determined in the laboratory.

No sand or gravel is found at the surface at a place where a reasonable upward projection of the dip of the basal sands of the Graham Ferry formation would indicate they should outcrop. Thus it would appear that at most places these sands feather out updip and are overlapped by younger beds of shale or clay. However at some places recharge may take place by percolation downward through more recent sand or gravel which fills channels cut through the clays overlying the Graham Ferry aquifer, or by means of some other hydrologic connection with meteoritic waters which remain as yet undiscovered.

Regardless of the fact that from early spring 1943 to early spring 1944 approximately a billion gallons of water had been removed from the basal sands of the Graham Ferry formation by the Keesler Field pumps alone, water levels in the wells during periods of like pumping rates were comparable.

Additional investigations are needed to determine the ultimate yield of this aquifer, to calculate the coefficients of transmissibility and storage at more locations in the area, and, finally, to evaluate "boundary conditions" such as the maximum rate at which water is available for recharge from sources outside the aquifer. These factors are not constant as even a cursory examination of the geology will show. The solution of these problems will depend on pumping tests at numerous points, on test drilling, on more intensive studies of the recharge areas, and on a mathematical treatment commensurate with the geological conditions.

PLEISTOCENE SERIES

CITRONELLE FORMATION

GENERAL FEATURES

The sand, sandy gravel, gravel, clay, and clayey gravel of the Citronelle formation cap several ridges in the long leaf pine hills and are the oldest recognizable terrace deposit in the area. The ridges have a radiating pattern fanning out from the northwest, an outline suggesting that the formation is erosion remnants of distributary channel deposits of some great Pleistocene stream. The beveled clays and silts of the Pascagoula and Graham Ferry formations on which the Citronelle disconformably rests are crudely benched at altitudes of 190 to 210 feet and 250 to 270 feet in Pearl River, Stone, and George Counties, and in the extreme northern portions of Hancock, Harrison, and Jackson Counties. Farther south in the coastal portion fingers of sand and gravel of the Citronelle formation continue down beneath younger sediments, where they have been reworked in part and locally, as east of the Pascagoula, entirely eroded and redeposited into lower and younger formations. Gravels encountered in wells along the coast in southern Hancock County are assigned to the

Citronelle; and between Gulfport and Biloxi, Harrison County, and in the vicinity of Pascagoula, Jackson County, somewhat questionably so.

The thickness of the Citronelle formation ranges from a thin mantle to a known maximum of about 160 feet. On the ridge crests

Figure 15.—Big Biloxi Creek flowing across clay of the Graham Ferry formation where conditions are not favorable for recharge to the artesian sands (Locality L, SE. 1/4, NW. 1/4, Sec. 22, T. 5 S., R. 12 W.), Harrison County.

maximum thickness is about 100 feet, but in southwestern Hancock County the buried extension reaches the larger figure and may exceed it.

Perhaps the most typical feature of the Citronelle formation is the brick-red sand forming the cores of ridge crests and extending down to altitudes as low as 50 feet on the projections of the ridges. The sand is highly oxidized, usually massive and sprinkled with coarse grains of milky quartz and brown chert. The well-drained uplands of the Citronelle support a typical oxidized sandy loam series, locally silty where original depressions and subsurface drainage have caused accumulation of fine material. According to C. F. Marbut,[37] these soils are like the sandy soils of the Atlantic coastal plain south of North Carolina, except that much more fine and very fine sand is present. Much of the upper sandy part assigned to the Citronelle seems to be wind-blown, and, although younger than the Citronelle, it is mapped with it as part of the lithologic unit. The blow-outs and active dune areas can be separated, however. Gravel, both

Figure 16.—Gravel of the Citronelle formation resting on weathered clay of the Graham Ferry or the Pascagoula formation at an elevation of 273 feet (Locality G, NE. 1/4, NE. 1/4, Sec. 26, T. 2 S., R. 15 W.), Pearl River County.

sandy and clayey, is common in the lower part of the formation (Figure 16); the walls of numerous road-metal pits expose large-scale fluvial cross-bedding in the coarse clastic material and in local thin beds of gray clay. Pockets and stringers of clay extend throughout the lower gravelly portion. The gravel is mostly brown chert and quartz so common on the upland throughout Mississippi.

HYDROLOGY

Numerous small farm wells and springs in the long leaf pine hills derive water from the Citronelle formation which is perennially saturated in the lower few feet. Its limited distribution prevents large development along the coast although transmissibility is high where the gravel beds extend below the coastal meadows. Some of the early wells in Hancock County derived water from the Citronelle under natural pressure of about 20 feet above the land, but subjacent greater pressures early led to deeper drilling. An attempt to produce 500 gallons a minute from gravel above a depth of 155 feet at Moss Point, Jackson County, in 1927 resulted in salt-water encroachment and the well had to be abandoned. Conditions would seem somewhat more favorable in Hancock County, because of greater fresh-water pressure but intensive pumping would, by analogy, eventually cause salt-water encroachment. Water in the Citronelle is more important in the hinterland because it serves as an auxiliary reservoir for the underlying formations and probably contributes pressure to the flowing wells along the coast which derive water from the Graham Ferry and Pascagoula formations.

HIGH TERRACE DEPOSITS

Alluvial deposits which can be mapped separately from the Citronelle formation are shown on the geologic map in the vicinity of Pearl and Pascagoula Rivers. These local deposits are younger than the Citronelle, being reworked sand and gravel largely derived from the older formation which they resemble lithologically. The estimated maximum thickness near the Pearl River is 100 feet; east of the Pascagoula River, 50 feet. An average thickness noted in wells east of the Pascagoula River, where the material splays out to the southeast, is about 30 feet. The High terrace deposits differ from the Citronelle in that the chert pebbles seem less abundant and the quartz more abundant, and in that they are less indurated, although the basal portion is cemented at Locality A (Figure 17). Small supplies of water for farm and domestic purposes are obtained from the High terrace deposits. However, the limited area covered by them, together with their elevated position which facilitates natural drainage, reduces their importance as ground-water reservoirs.

LOW TERRACE DEPOSITS

The Low terrace deposits, younger than the High terrace deposits, include lower stream alluvium east of the Pascagoula River as well as a strip of deposits comprising beach ridges which extend across the area west of the Pascagoula River. The deposits are thin; a thickness of 20 feet in the Pascagoula strath area is maximum along distributary ridges or natural levees, but most of this strath area is underlain by 6 feet or less of Low terrace alluvium. The belt of Low terrace deposits west of the Pascagoula River is somewhat thicker, probably averaging 15 feet. The Low terrace deposits are mostly sand (Figure 18). Where the water table is high and swampy organic debris is present, the sand is gray; elsewhere it is tan or yellow. Locally the deposits contain pebbles and grains of quartz

Figure 17.—Ninety feet of sand of the High terrace deposits (Locality A, SW. 1/4, Sec 5, T. 1 S., R. 17 W.), northwestern corner of Pearl River County.

and brown chert. Along the lower elge of the outcrops west of Pascagoula River the tan sand is locally consolidated into a friable sandstone and in Hancock County the outcrops are gray mottled clay and sand.

A few small wells derive water from the Low terrace deposits under water-table conditions. The sands will transmit water, but the small areal extent and thinness of the deposits show that large quantities of water are not present.

A section of Low terrace deposits is exposed on the south bank of Red Creek at Red Bluff.

Figure 18.—Massive sand of the Low terrace deposits beneath sandy loam exposed on west bank of the Pascagoula River. The bluff is 24 feet high, composed of white sand in the lower 8 feet that grades up into clay and 10 feet of weathered clayey brown sand beneath the tree (Locality T, West center Sec. 3, T. 7 S., R. 6 W.), Jackson County.

SECTION AT RED BLUFF (LOCALITY P, SE. 1/4, SE. 1/4, SEC. 16, T. 4 S., R. 7 W.), JACKSON COUNTY. ALTITUDE AT TOP OF BLUFF 46 FEET.

	Feet	Feet
Low terrace deposits		30
Sand, clayey and sandy loam, weathers brown in a vertical face; Indian potsherds near top	10	
Sand, laminated white; yellow and gray-yellow clayey sand	8	
Sand, fine white; somewhat coarser near the base	12	

PAMLICO SAND

The Pamlico sand underlies the Pamlico plain (coastal pine meadows) along the north shore of the Mississippi Sound. Much of the outer edge of the Pamlico sand is capped by Recent beach and dune deposits from which it cannot readily be separated, and the formation, as mapped, also includes fluvial deposits of Pearl and Pascagoula Rivers near their mouths which merge with the marine deposits along the shore.

The Pamlico surface is well marked across the State, and many beach features are preserved. North of Biloxi mollusk-bored pebbles from an elevated beach at a height of 42 feet (Figure 3) may have been deposited when the sea stood at the Penholoway level, or they may have been cast up by the Pamlico sea which left fossiliferous marine deposits. Douglas Johnson gives 20 feet as the maximum height at which beach ridges might be formed above the sea. A somewhat smaller height might be expected along the Gulf Coast where tides are small and off-shore depths are shallow, until it is recalled that the area is lashed by hurricanes, which could leave a ridge at a height considerably above the littoral.

H. G. Richards[38] cites the U. S. Geological Survey for the authority that Pleistocene fossils have been found at depths of 30 and 50 feet midway between Gulfport and Biloxi, Harrison County, at 30 to 64 feet at Long Beach west of Gulfport, Harrison County, and at 70 to 95 feet at Waveland, Hancock County, depth intervals within the Pamlico sediments.

The thickness of the marine and estuarine deposits is small and variable—1 to 75 feet, according to correlations on drillers' logs. Most of the material is gray and tan sand, although clay and silt, resulting from lagoonal depositions, are exposed in the northern and lower portions of the Pamlico plain, as well as some beach shingle in the seaward portion.

A good exposure is on the southeast bank of the Wolf River (Locality X, NE. 1/4, NE. 1/4, Sec. 5, T. 8 S., R. 12 W.), Harrison County, 3 miles north of the Pass Christian-Long Beach boundary.

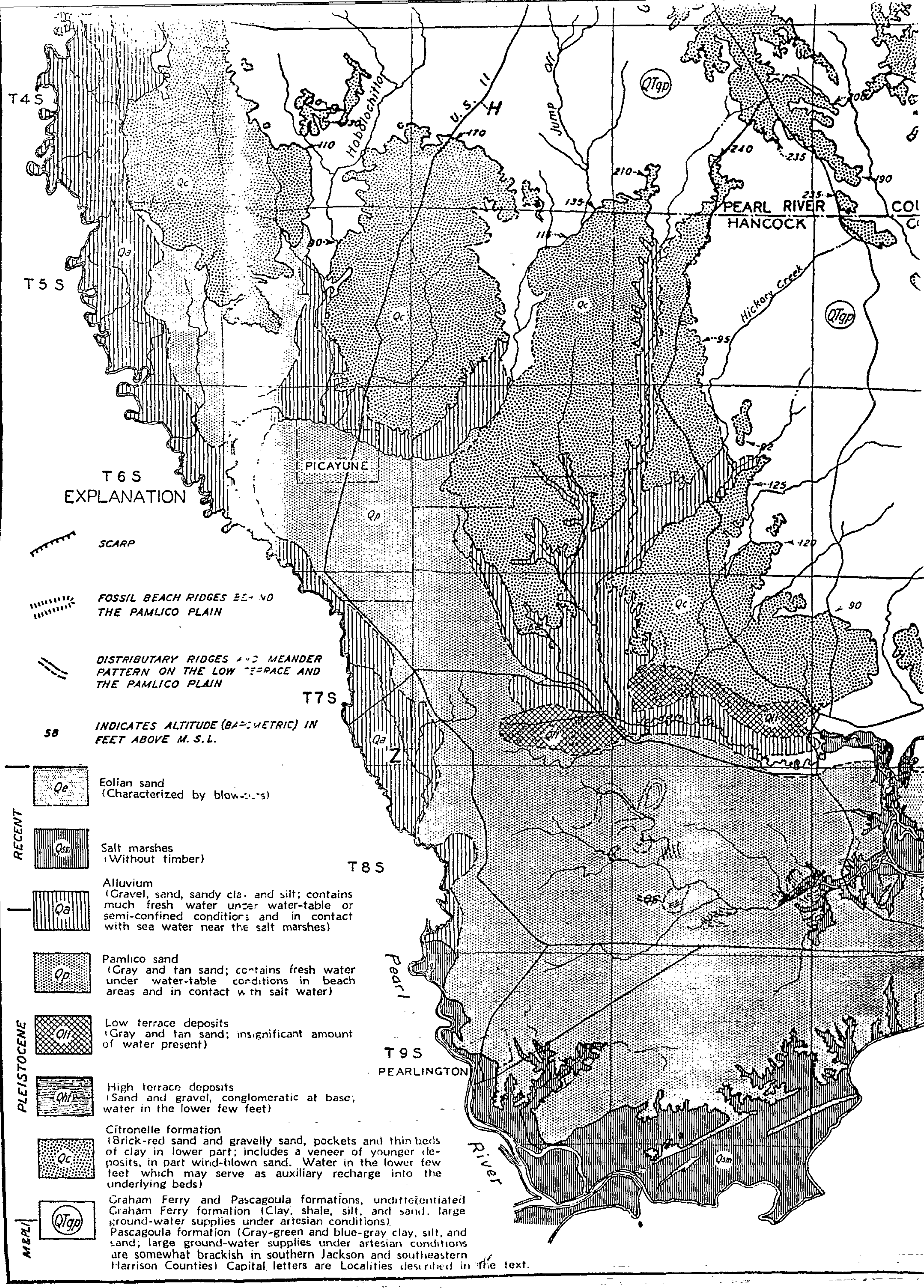
SECTION OF THE SOUTHEAST BANK OF WOLF RIVER. ALTITUDE AT TOP OF THE BANK 25 FEET.

	Feet	Feet
Pamlico sand		15
Sand and weathered chert pebbles; grades upward into sandy loam	3	
Clay, lenticularly bedded gray	2	
Sand, yellow clayey; contains pebbles of weathered chert	10	

Some small water wells back from the shore have been dug into the Pamlico sediments, but the porous and unconsolidated sands have furnished a reservoir for sewage in the thickly populated areas, thus permitting pollution of the water of the Pamlico until it is unwholesome and locally dangerous for domestic use. However, much water for industrial uses such as air-conditioning could with care be pumped from the Pamlico. The temperature of the water from the Pamlico sand is uniformly about 70 degrees Fahrenheit throughout the year. Such water would probably become increasingly salty, especially if withdrawn in large amounts near the tidal bays.

ALLUVIUM

Gorges cut by the trunk streams, Pearl, Pascagoula, and Escatawpa, presumably during the last or Wisconsin glacial epoch, have been filling up since the close of the epoch. The bulk of the lower part of the alluvium is sand and gravel, similar to contemporaneous deposits along the Mississippi River. At the present time clay and silt are accumulating on the overflow portions of the Pascagoula valley; and much organic debris, including sawdust, is accumulating along the tidal marshes. Exposures of sand bars and levees along the banks of the Pascagoula River in George County show gray fetid and sticky clay, locally layered with partly decayed roots and twigs. Sand and gravel are abundant in the alluvium of Red Creek, Wolf River, and Pearl River, as well as along many smaller tributaries. Along Red Creek, whose course has been much alluviated compared to Black Creek, sand and gravel banks contain pebbles as large as two inches across composed of white, gray, tan, and black chert and bull quartz. One exposure in eastern Stone County is along Red Creek.



T4S
T5S
T6S
T7S
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Hickory Creek
PEARL RIVER
HANCOCK
PICAYUNE
PEARLINGTON
Pearl River
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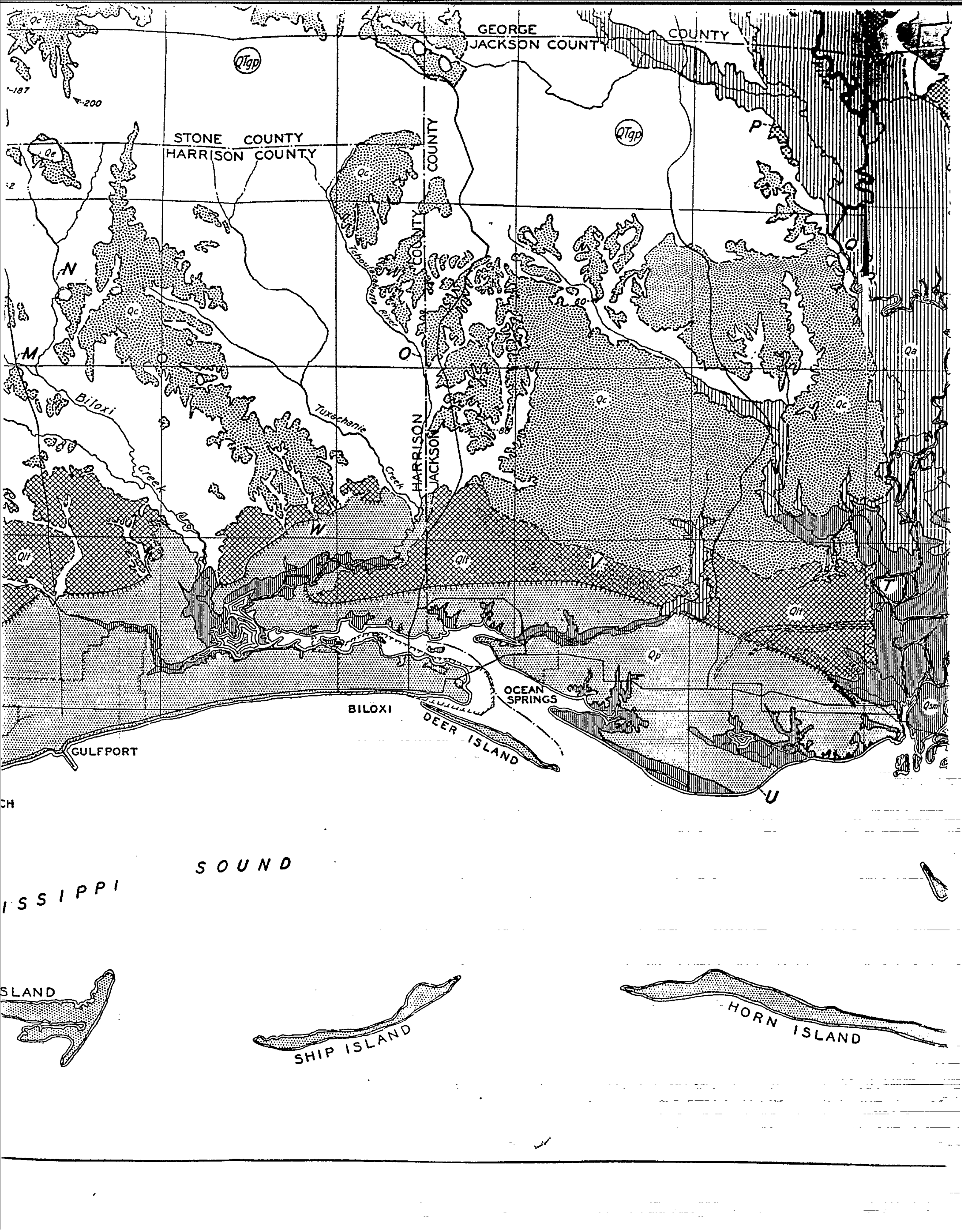
EXPLANATION
SCARP
FOSSIL BEACH RIDGES BE- ND THE PAMLICO PLAIN
DISTRIBUTARY RIDGES A C MEANDER PATTERN ON THE LOW TERRACE AND THE PAMLICO PLAIN
58 INDICATES ALTITUDE (BAROMETRIC) IN FEET ABOVE M. S. L.
RECENT
Qe Eolian sand (Characterized by blow-outs)
Qsm Salt marshes (Without timber)
Qa Alluvium (Gravel, sand, sandy clay and silt; contains much fresh water under water-table or semi-confined conditions and in contact with sea water near the salt marshes)
PLEISTOCENE
Qp Pamlico sand (Gray and tan sand; contains fresh water under water-table conditions in beach areas and in contact with salt water)
Qlt Low terrace deposits (Gray and tan sand; insignificant amount of water present)
Qht High terrace deposits (Sand and gravel, conglomeratic at base; water in the lower few feet)
Qc Citronelle formation (Brick-red sand and gravelly sand, pockets and thin beds of clay in lower part; includes a veneer of younger deposits, in part wind-blown sand. Water in the lower few feet which may serve as auxiliary recharge into the underlying beds)
M&PLI
QTgp Graham Ferry and Pascagoula formations, undifferentiated
Graham Ferry formation (Clay, shale, silt, and sand, large ground-water supplies under artesian conditions).
Pascagoula formation (Gray-green and blue-gray clay, silt, and sand; large ground-water supplies under artesian conditions are somewhat brackish in southern Jackson and southeastern Harrison Counties) Capital letters are Localities described in the text.



GEORGE COUNTY
JACKSON COUNTY
STONE COUNTY
HARRISON COUNTY
HARRISON COUNTY
JACKSON COUNTY
QTgp
Qc
Qlt
Qp
Qa
Qsm
Biloxi Creek
Tuxachanie Creek
Tchoutacabouffa River
BILOXI
OCEAN SPRINGS
GULFPORT
DEER ISLAND
MISSISSIPPI SOUND
SHIP ISLAND
HORN ISLAND
N
M
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Water Resources of the Pascagoula Area Mississippi

By EDWARD J. HARVEY, HAROLD G. GOLDEN, *and* H. G. JEFFERY

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1763

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Ref, 19

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cuttings from several places between 470 and 1,030 feet, and *Amphistegina* sp. at 2,368 feet, probably near the base of the Hattiesburg. The Hattiesburg probably begins above 1,600 feet and extends to almost 2,300 feet. A paleontological report by B. L. Smith (oral communication, 1961) shows that *Sorites* sp. occurs at a depth of 2,490 feet in this well. Akers and Drooger (1957, p. 666) and Puri (1953, p. 45) stated that *Sorites* sp. is found with *Archaias* sp. Thickness of the Hattiesburg probably is at least 800 feet.

South of the Humble-Dantzler test the Hattiesburg is too deep to be considered as a source of fresh water. The complete thickness of the formation has not been prospected as a source of water, although the Lucedale wells probably are completed in the lower part of the formation.

Water from George County well C15 (table 21) is a sodium-bicarbonate type and similar to water in the Pascagoula Formation. Yields of wells C15 and C17 are reported to be about 500 gpm. Comparison of the logs of the wells with electrical logs of oil tests in other parts of George County indicates that water wells having similar yields can be made in the Hattiesburg Formation in other parts of the county and that a substantial supply of water is available from this source to meet future demands.

PASCAGOULA FORMATION

STRATIGRAPHY

The Pascagoula Formation was first named Pascagoula Clay by McGee (1891) because clay was so often found beneath the overlying gravel of the Citronelle Formation. In many places the contact with overlying terrace deposits or sand and gravel of the Citronelle is marked by the presence of green, dark blue, or gray clay beds of the Pascagoula. Occasionally sand of the Pascagoula, usually gray or dark blue and silty, occur below the contact. In the subsurface, several hundred feet of fine to coarse sand occurs in the section in lenses that cannot be traced far.

Brown and others (1944, p. 142–143), by interpreting the log of the Sea Coast Oil Hibbler 1 test well, in northwest Moss Point, placed the base of the Pascagoula at 1,800 feet and assigned 1,400 feet of sand and clay to the formation. In the Humble-Dantzler well, Brown placed the base of the Pascagoula at a depth of 1,600 feet, although he does not show in the log the presence of *Amphistegina*. Herrick found *Amphistegina* at 2,368 feet and placed the base of the Pascagoula Formation at 2,338 feet. The total thickness thus represented of more than 2,000 feet for the formation seems excessive. With the exception of the city wells (C15 and 17) at Lucedale in George County and an abandoned 1,800-foot well that produced hot salt water in Moss Point, all wells drilled below the Citronelle or Graham Ferry Formations are completed in the Pascagoula Formation.

No attempt has been made to divide the Pascagoula Formation because of the lenticularity of the deposits. Brown's interpretation (Brown and others, 1944) of the top of the formation and the one presented herein are in general agreement. However, the 500-foot sand at Ocean Springs, which Brown considered basal Graham Ferry, is probably in the Pascagoula Formation. The Pascagoula Formation dips to the south at about 40 feet per mile. *Rangia johnsoni* was found in well Q117 at Bayou Casotte at a depth of 990 feet and in well N66 at Ocean Springs at 995 feet. The finding of *Rangia johnsoni* in these wells indicates that the beds do not dip appreciably to the west and that the strike of the Pascagoula Formation is almost east-west, and the correlation of the 500-foot sand at Gautier and Ocean Springs further substantiates the east-west strike.

In the vicinity of Pascagoula, a pronounced change in lithology usually is apparent at the base of the sand of the Graham Ferry Formation, where hard green shale 200 to 300 feet thick underlies the sand. Several sands are fairly continuous in small areas. Probably the most extensive sand units are those at 500- and 800-foot depths at Ocean Springs. The 500-foot sand at Ocean Springs can be traced as far east as the western part of Pascagoula, where three flowing wells were completed in the unit. These are the only known flowing wells in Pascagoula in 1961; other wells, both deeper and shallower, ceased to flow before 1958. The sand has not been recognized in wells farther east, although sandy zones noted at approximately the 500-foot depth are probably equivalent.

The 500-foot sand consists of fine to coarse grains of quartz and granules of black polished chert and has a gray appearance owing to the large percentage of dark minerals. Granules of chert and quartz are more abundant near Ocean Springs than at Gautier. In Gautier and western Pascagoula, about 30 to 40 feet of sand in this interval was correlated with the sand farther west on the basis of lithology, stratigraphic position, water levels, and chemical composition of the water. At Ocean Springs, the 500-foot sand may vary in short distances from more than 100 feet of coarse sand to an equal thickness of sandy shale containing a few thin lenses of coarse sand.

The sand occurring at 800 feet at Ocean Springs is not as persistent as the 500-foot sand (pl. 10). Lithologically, the sands are similar. The 500- and 800-foot sands are distinguished from each other by the chemical character of their contained water. The 800-foot aquifer is not as extensively used as the shallower aquifer.

At Pascagoula and Gautier, sands occur at depths of 700 to 900 feet; they are probably equivalent to the 800-foot sand at Ocean

Springs, even though considerable difference exists in the quality of the water in the two areas and the chloride content is much higher at Pascagoula.

A sand occurring at a depth of 800 feet underlies Moss Point, but it apparently changes to a shaly section in the surrounding areas. Because of the dip of the beds, this sand is not considered equivalent to the 800-foot sand in Pascagoula.

In a small area in the eastern part of Pascagoula a bed of fine-grained sand occurs at depths ranging from 600 to 650 feet. It is similar to other sands of the Pascagoula Formation; but because of its lesser thickness and fine texture, it is not capable of yields as large as those of the 800-foot sand. As other wells are drilled, its areal extent will be better known.

Aquifers at depths of more than 1,000 feet have been utilized very little in George and Jackson Counties. Test wells have been drilled and a few water wells completed in sand 1,000 or more feet deep in the vicinity of Pascagoula. Owing to the lenticularity of these aquifers and to the higher chloride content usually prevailing in water from the deeper sand, development has been slight. In the Bayou Casotte area, three test wells drilled to depths of 1,000 to 1,100 feet failed to penetrate an aquifer. However, sufficient sand for the development of domestic or small industrial water supplies usually can be found, and a few wells have been drilled through as much as 80 feet of sand at depths exceeding 1,200 feet (Q34, K37, fig. 2). The mineral content of the water in well K37, on Bluff Creek, is exceptionally low for the Pascagoula area, and the chloride content is lower than that found in shallower wells. Most of the older wells, completed at depths of more than 1,000 feet, produced water having more than 500 ppm of chloride. Only two of these older wells are in use in 1961.

HYDROLOGY

The formations that show the greatest amount of areal decline in water level are usually the most heavily used. The deeper sands are pumped more heavily in the western part of Jackson County, but most of the ground water in the project area is derived from the Graham Ferry Formation at a depth less than 400 feet. Comparison of water-level measurements made in 1958–61 with the earliest measurements available for the 500- and 800-foot sands shows declines of 50 and 75 feet, respectively. In many places away from the centers of pumping, flowing wells still exist after 75 years of use. The artesian pressure of the 800-foot sand at Pascagoula and Moss Point has decreased about 75 feet since 1897; pumpage has increased from a few hundred gallons per day to 3 mgd between 1897 and 1958, and 10 percent of the available pressure has been used. If pumpage remains constant, water levels will become nearly stabilized, but increased pumpage will cause an additional decline in water levels.

The declines in water level are not only dependent on the amount of water pumped but are also affected by the transmissibility and storage coefficient of the aquifer. Three pumping tests on sands of the Pascagoula Formation in Jackson County indicated that transmissibilities range from 25,000 to 60,000 gpd per ft (fig. 24 and table 20). It is estimated that transmissibilities will equal 60,000 gpd per ft for the 500- and 800-foot sands at Ocean Springs.

Water levels in the 500-foot sand at Ocean Springs declined at the moderate rate of about 1 foot per year since 1919. Measurements made in 1919, 1939, and 1958 do not indicate an increased rate of decline in the past 20 years. Water levels are 10 feet lower in the center of Ocean Springs than in the area east of town (pl. 5; fig. 25). The contour map shows that ground water is moving from the outcrop area in northern Jackson County toward Ocean Springs and Gautier. The natural discharge area of the aquifer lies at some distance offshore. The use of water from this aquifer has not been large enough to cause wells to stop flowing except in the immediate vicinity of Ocean Springs. The contours in Ocean Springs show the effect of municipal pumpage and withdrawals in the Biloxi area to the west.

Where the piezometric surface of an aquifer (fig. 39) stands above the ground surface, a flowing well can be obtained. The map outlining areas where flowing wells can be constructed was based on locations of the deepest known wells in the two counties yielding fresh water (pl. 10). The piezometric surface slopes toward the coast, and the water in the deeper aquifers normally will stand under natural conditions at a higher level than the water in the shallower aquifers. The use of the aquifers along the coast has so altered the natural condition that the water in the 500-foot sand at Pascagoula, for example, stands at a little higher level than the water in the 800-foot sand.

Because of the lower chloride content of waer from wells in western Jackson County, more wells exceeding 1,000 feet in depth are in use in the vicinity of Ocean Springs and LaRue community than in the remainder of the area. Electrical logs of oil tests drilled in the northern parts of Jackson and George Counties show the presence of several thick, sand beds in the Pascagoula Formation. Sample cuttings from deep wells show that the sands in the northern area are generally very coarse and that each supply well should be capable of yielding several hundred gallons per minute. However, information on deep borings is lacking in much of Jackson County, and continuity of the deeper sands is not well known.

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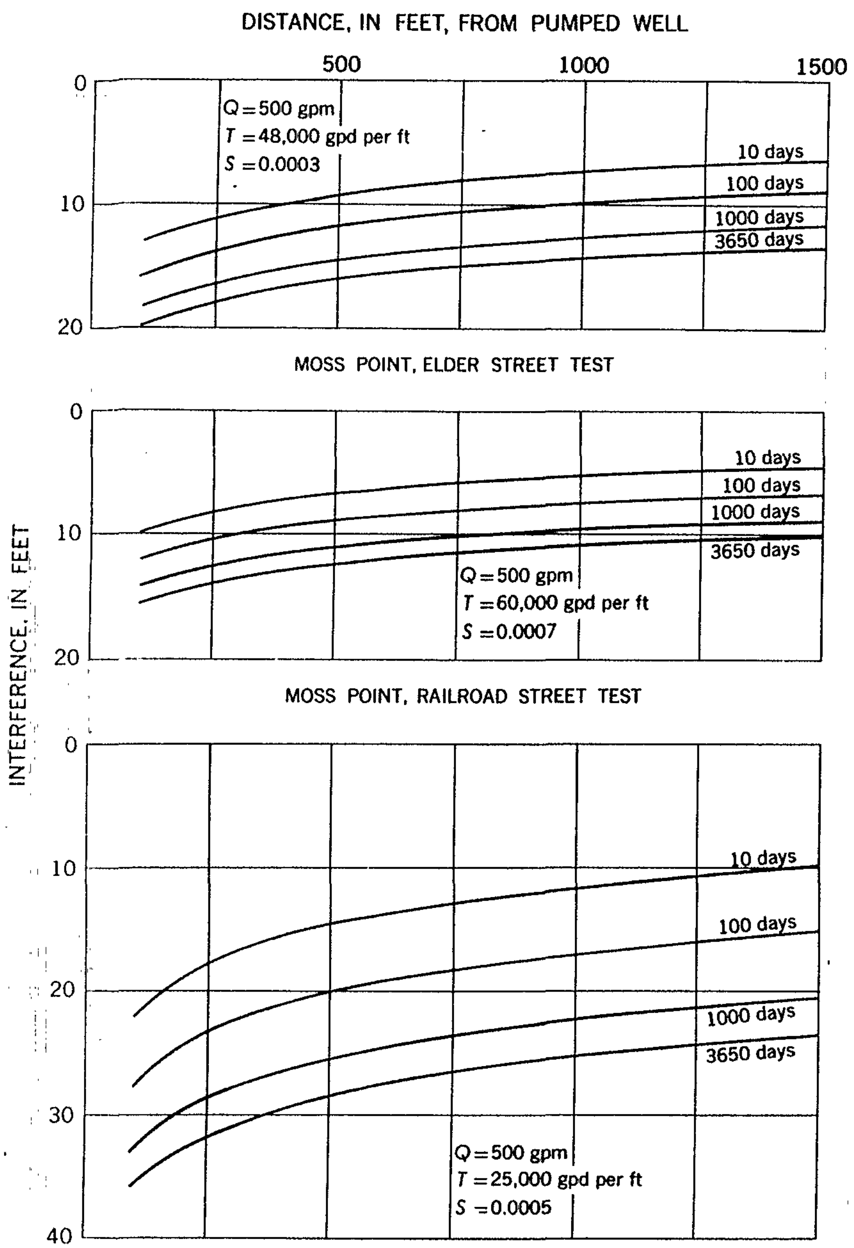

FIGURE 24.—Yield-drawdown relationship in aquifers of the Pascagoula Formation.

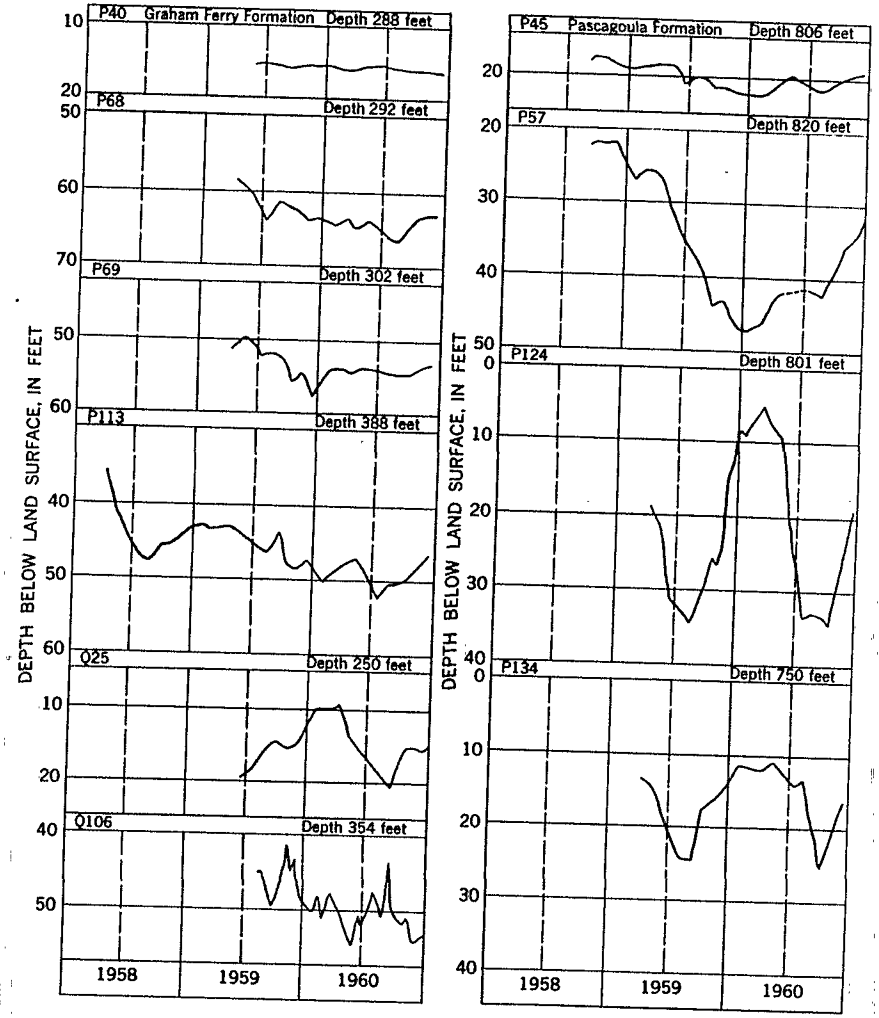

FIGURE 25.—Hydrographs of wells in the Pascagoula and Graham Ferry Formations.

CHEMICAL QUALITY

Water from the three principal water-bearing units of the Pascagoula Formation is soft and is usually colored in varying degrees. Basically, it is of the sodium bicarbonate type, having considerable quantities of chloride in water from the 800- and the 1,200-foot sands. Locally, the percentage of chloride may be sufficient to change the classification of the water to a sodium chloride type. The dissolved-solids content of water from this formation is variable; generally, it increases with depth and with distance from the outcrop area.

TABLE 20.—*Pumping test data for aquifers in vicinity of Pascagoula, Miss.*

[See figures 24, 27, and 30 for time-distance-drawdown relationships]

Owner	Formation	Thickness of sand (ft)	Coefficient of transmissibility (gpd per ft)	Coefficient of permeability (gpd per sq ft)	Coefficient of storage	Specific capacity (gpm per ft of drawdown)	Specific capacity of typical wells (gpm per ft of drawdown)	Typical yields (gpm)	Remarks
Coastal Chemical Co.	Graham Ferry.	60	23,000	380	0.0002	13	7-16	300-500	Average of two tests.
H. K. Porter Co.	do	50	14,000	280	.002	2	7-16	300-500	Erratic development of aquifer in this area. Sand at pumped well poorly developed.
Quaker Oats Co.	do	100	54,000	540	.0005	----	7-16	300-500	
City of Moss Point:									
Elder Street	Pascagoula	56	48,000	860	.0003	13	10-20	500	
Railroad Street	do	80	60,000	750	.0007	18	10-20	500	
Stuart Hubbard	do	----	25,000	----	.0005	10	----	----	Flowing wells.
County Board of Supervisors	Citronelle	80	45,000	560	.0006	11	----	100-500	Average values of transmissibility and storage from four observation wells.

The observed maximum and minimum concentrations of the predominant constituents and dissolved solids are shown in the following table.

Chemical analyses, in parts per million, of water from the Pascagoula Formation

Constituent	Concentration	
	Maximum	Minimum
Sodium (Na)	619	16
Alkalinity (HCO_3, CO_3)	760	16
Chloride (Cl)	756	2
Dissolved solids	1,640	112

The individual concentrations of calcium, magnesium, and sulfate seldom exceeded 10 ppm. Calcium and magnesium usually were less than 5 ppm. The fluoride content of 1.9 and 2.4 ppm in wells P21 and Q34 exceeded the upper limit of 1.5 ppm for potable waters recommended by the U.S. Public Health Service. The results of analyses of water from wells in George and Jackson Counties are shown in tables 21 and 22. A few of these analyses are shown graphically in plates 9 and 10. These figures also illustrate the variability of chloride in the area. The higher concentrations of chloride, and an equivalent quantity of sodium, are presumed to be a result of incomplete flushing of sea water that was trapped in the Pascagoula sediments when they were deposited. The high sodium bicarbonate content probably results from a series of reactions involving calcium carbonate, base-exchange minerals, and carbonaceous material. Foster (1950) states that only in a formation containing these three materials, and, usually, only at some depth in the formation, may water of a high sodium bicarbonate content be expected. Conversely, the occurrence of such water may be taken as indicative of the presence of these three materials in a formation.

In the Ocean Springs area the chloride content of water from the 500-foot sand usually was less than 20 ppm. The chloride content of water from the 800-foot sand ranged from 34 to 151 ppm, and in water from the 1,200-foot sand it ranged from 340 to 762 ppm.

The difference in chloride content in waters from the 800- and 1,200 foot sands in the Pascagoula-Moss Point area is not as distinct as that found in the Ocean Springs area. In the Pascagoula-Moss Point area the chloride content of water from the 800-foot sand ranged from 57 to 300 ppm, and from the 1,200-foot sand it ranged from 175 to 545 ppm. Considerable overlapping occurs in the maximum values for chloride in the 800-foot sand and in the minimum values for chloride in the 1,200-foot sand in this area, and chloride values that approach the maximum of 300 ppm are found at various depths within the 800-foot sand unit. Such factors as environment of deposition, continuity of the aquifer, permeability, and distance to the outcrop are complexly related, and together they explain the variation in chemical quality of the water.

An increase in chloride content of water from a coastal aquifer usually is considered indicative of salt-water intrusion. Two wells (P124 and P134) were sampled periodically to monitor changes in the chloride content of water from the Pascagoula Formation. Although these analyses (see table 22) show a variation in chloride content, they do not indicate salt-water intrusion in the aquifer.

The sands of the Pascagoula Formation at various depths in the Pascagoula-Moss Point area are lenticular. An examination of sample cuttings and the results of pumping tests indicate that the permeability of the sands varies from low to moderately high. These characteristics affect the flushing of salt water from the aquifers because low permeabilities hinder the free movement of water. The variability of chloride with depth and the lack of distinction in chloride content between the 800- and 1200-foot sands in the area probably are a result of different rates of flushing of salt water from the sands. On the other hand, the 500- and 800-foot sands in the Ocean Springs area, although somewhat lenticular, are more continuous as a whole, and their flushing is therby facilitated to a greater degree than in the Pascagoula area. The generally lower chloride content of water in the Ocean Springs area in the 500-, 800-, and 1,200-foot sands contrasts with the higher chloride content in the aquifers at those depths in the Pascagoula area.

The Pascagoula Formation crops out in a large part of the upland surface west of Pascagoula River, and natural recharge to the sandy aquifers in the outcrop is direct. East of the river, where much of the upland surface is covered by a thick mantle of the Citronelle and terrace deposits, water available for recharge must pass through the thick surficial deposits before reaching the underlying Pascagoula Formation (pls. 3, 9). Rate and distance of movement of water through the aquifers to the coast are important factors in the mineralization of the water.

The depositional environment of the sand and surrounding clay beds, whether in a marine, brackish-water, or fresh-water environment, would influence the type of water available today. More thorough flushing would be needed to obtain potable water supplies from marine deposits than from continental deposits.

According to electrical logs of oil tests drilled in west-central Jackson County, the base of fresh-water sands is at depths ranging from 1,500 to 1,800 feet. The log of the C. A. Floto State of Mississippi 1 test drilled on Horn Island shows the presence of moderately fresh water at a depth of 1,500 feet. In Moss Point, a well drilled 1,807 feet deep was sampled in 1956 and yielded water having a chloride content of 1,560 ppm. In Pascagoula, water containing 550 ppm of chloride was obtained at a depth of 1,600 feet. The deepest well south of the mainland (O47) for which an analysis is available is 1,140 feet deep and yields water having a chloride content of 135 ppm. The combination of electrical logs and water analyses for deep wells indicates that the lower limit of occurrence of fresh water ranges from a depth of 1,200 feet at the coast to 1,600 feet in central Jackson County. From the coast to Horn Island, the lower limit of occurrence of fresh water is almost level.

GRAHAM FERRY FORMATION

STRATIGRAPHY

The Graham Ferry Formation contains the aquifer most widely used and generally most consistently present in the vicinity of Pascagoula. The formation was named and described by Brown and others (1944) from exposures at a power-line crossing south of Graham Ferry near the center of the eastern half of sec. 38, T. 5 S., R. 7 W. The contact between the Graham Ferry and the Pascagoula is not visible at this locality. The Graham Ferry outcrop lies in the northwestern part of Jackson County, west of Pascagoula River and south of Red Creek. Remnants of the formation may be exposed in stream valleys east of the river, but they have not been recognized. Typical gray clay and silty sand beds are exposed along the road cuts and creeks north of Vancleave. The 400-foot sand developed in Pascagoula and Bayou Casotte is equivalent to the sandy beds at Graham Ferry.

The base of the 400-foot sand at Pascagoula was considered by Brown to be the base of the Graham Ferry Formation and in contact with the top of the Pascagoula Formation of Miocene age. However, about 500 feet of clay and sand below the 400-foot sand may belong to the Pliocene instead of the Miocene Series. According to Akers and Drooger (1957, p. 667) "* * * the suggested Miocene-Pliocene boundary in the Gulf Coast is in accordance with usage of oil companies which follow Ellisor (1940) in recognizing the *Rangia microjohnsoni* zone as uppermost Miocene." However, until additional information is available, Brown's interpretation of the boundary in the vicinity of Pascagoula is accepted in this study.

The apparent dip of beds of the Graham Ferry is southward at the rate of 19 feet per mile, as determined from seven measured sections extending for 3 miles north and south of Graham Ferry on the west bank of Pascagoula River. The contact between a 3-foot bed of gray clay overlying a bed of light gray fossiliferous sand is the horizon on which the calculation of dip is based. Even though this fossiliferous bed was not traced in the subsurface, projection of the dip southeast to Pascagoula indicates a correlation of the sand exposed in the bluff (see measured section, p. 13) with the 400-foot sand at Pascagoula. Similarly, the sand and overlying clay in the measured section on the river, when projected west to the geologic section (pl. 2), correlates with the sand and overlying clay occurring in the wells along the cross section. Even though the strata are faulted in the vicinity of Graham Ferry, the displacement is small and of minor consequence in the correlation.

The relation of the Graham Ferry to the underlying Pascagoula Formation is obscure, and a definite contact between the formations in the outcrop area has not been observed. The base of the sand can be traced in well logs from Gautier to Vancleave. Correlation of the sand beds west of the river with those east of the river is based on tracing the water levels from the drawdown cone in Pascagoula to Gautier, on correlation of electrical logs, and on chemical characteristics of the water. The correlation is shown in a geologic section (pl. 2) extending from the vicinity of Vancleave to Gautier and thence along sections (pls. 10, 12) to Pascagoula and Bayou Casotte.

Brown correlated the 400-foot sand at Pascagoula with sand occurring at a depth of 500 to 600 feet at Ocean Springs. An alternative explanation based on correlation of electrical logs, sample studies, and water levels in numerous wells indicates that the sand in the Graham Ferry Formation fills a broad trough at Pascagoula and rises somewhat to the west (pls. 10, 13).

The chief reason for changing Brown's correlation of the 400-foot sand at Pascagoula with the 500-foot sand at Ocean Springs is the difference in water levels in the two aquifers in the vicinity of Gautier (pls. 4, 5). Pumpage from the Graham Ferry Formation in Pascagoula has created a drawdown cone that is reflected as far as Gautier. The water level in the Graham Ferry stands 10 to 20 feet below the water level in the 500-foot sand in Gautier. Comparison of the two piezometric maps shows that the difference in water levels in the two aquifers decreases toward Vancleave as the effect of the pumpage at Pascagoula decreases.

The 400-foot sand usually is gray and similar in many respects to sand in the Pascagoula Formation, but it contrasts markedly with the overlying sand of the Citronelle Formation and terrace deposits. The gray color is caused by an abundance of magnetite and other dark heavy accessory minerals, which occur in large concentrations in some wells and in smaller quantities in others. The sand in the bluffs along Pascagoula River similarly contains an abundance of dark mineral grains that give the outcrop a characteristic gray color. The pronounced variation in mineral content of the sand that occurs within very short distances is suggestive of beach deposits. The variation in amount of sand, percentage of heavy mineral constituents, and

interbedding with marine clay and carbonaceous beds clearly indicate estuarine and near-shore environments of deposition for the sediments. The sand is well sorted and fine- to medium-grained. The lower 10 to 20 feet is coarse-grained in the vicinity of Gautier and contains granules of polished chert and well-rounded quartz. The difference in transmissibility that occurs in Bayou Casotte and in the city of Pascagoula is evidence of the textural variation.

A dense gray carbonaceous clay bed 20 to 40 feet thick separates the 400-foot sand from the overlying coarse sand and gravel of the Citronelle Formation. The sand thickens gradually at the expense of the overlying clay from Vancleave to Pascagoula where the sand is as much as 110 feet thick. The thickness of the sand increases from Ocean Springs to Pascagoula and then decreases somewhat to the east. In the Bayou Casotte area the sand ranges from 40 to 80 feet thick and in places is divided into two beds separated by a shaly unit from 20 to 40 feet thick. Where the aquifer is shaly, it can be traced by the presence of thin sandy layers that correlate with the thicker sands. The sand can be traced as far north as Escatawpa on the east side of the river where it wedges out beneath the coarse alluvial and terrace deposits in the Pascagoula River valley and the broad terrace. The sand is virtually absent in places along U.S. Highway 90 (pl. 10) where equivalent beds of sandy clay 50 to 75 feet thick are present.

HYDROLOGY

Because 60 percent (6.6 mgd) of all ground water used in the Pascagoula-Moss Point area is pumped from the Graham Ferry Formation, water levels in this aquifer have declined considerably. Since 1939, most of the city supply has been pumped from this formation. Municipal pumpage from the Graham Ferry amounted to 1.9 mgd in 1958. Pumpage data for earlier years are not available. In the Bayou Casotte industrial area, the average daily pumpage according to records and estimates is 2.2 mgd. The remaining 2.5 mgd is used in other industries and in private water systems supplying residential subdivisions.

The earliest recorded water-level measurements were made in 1939 when three city wells were drilled along Communy Street and water levels stood from 4 to 8 feet below land surface. The first industrial wells were drilled in 1936, and two others were added in the area prior to drilling of the city wells. Since that time, many domestic wells, 3 additional municipal wells, and about 20 industrial wells have been constructed in various parts of the area.

During the period 1939–60, the water level has declined in downtown Pascagoula at the rate of 1.7 feet per year. The hydrographs (fig. 25) compare water-level declines in several parts of the area. Wells P68,

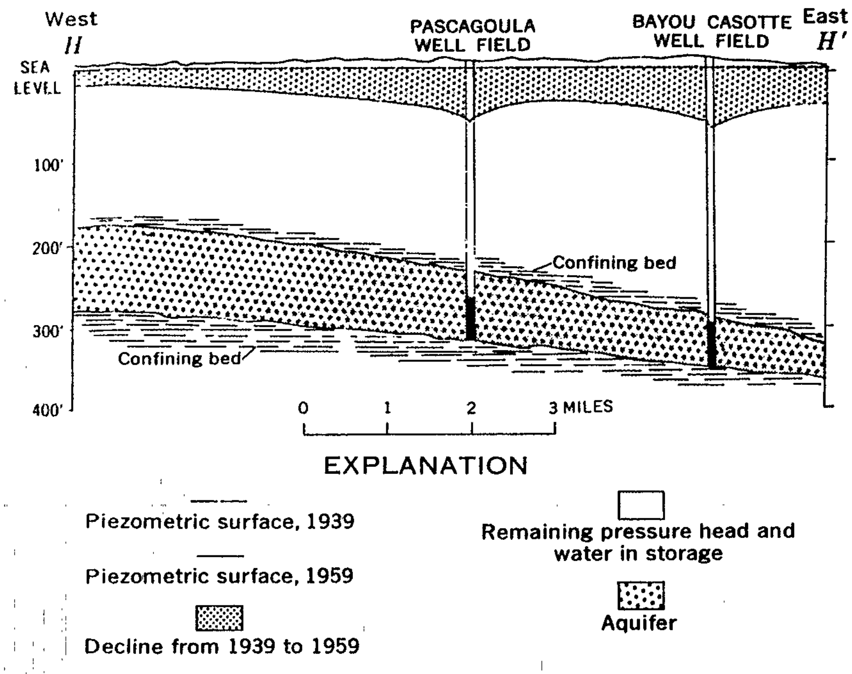

FIGURE 26.—Section *H-H'* across City of Pascagoula and Bayou Casotte industrial area showing profile of piezometric surface in 1959–60. See plate 4 for location of section.

P69, and P113 are city wells in operation. The rate of decline in P68 and P69 is about 2 feet per year, whereas the decline in P113 is 1.5 feet per year in 1961. The water level in well P123, one of three wells in the Graham Ferry at the Communy Street well field, declined at the rate of 1.7 feet per year.

In May 1957, the static water level of the Graham Ferry Formation at Bayou Casotte stood 11 feet below land surface, approximately the same as the water level of the overlying Citronelle Formation in 1961. Since 1957–58, when seven industrial wells were constructed in the Graham Ferry, the static water level has fallen 39 feet, while the water level of the Citronelle Formation has remained the same (fig. 26). Prior to 1957, domestic wells in the area completed in the Graham Ferry were equipped with suction pumps that are capable of operating efficiently when the static water level is less than 21 feet below the surface. An increase in industrial pumpage has necessitated the installation of jet pumps capable of lifting water from greater depths.

Early in 1961, water levels in the Bayou Casotte area had begun to stabilize under the draft (fig. 25, Q106). The annual decline in water levels will diminish in the future until an additional draft is imposed on the formation through construction of new wells or pumpage is

increased from operating wells. The rate of decline will increase in proportion to the increased draft.

The results of three pumping tests in the Bayou Casotte area and one in the western part of the city show considerable range in the transmissibility of the Graham Ferry Formation (table 30). The transmissibility determined in the test in Pascagoula is 54,000 gpd per ft. The average for the tests in Bayou Casotte is about 23,000 gpd per ft. The coefficients of storage determined from three of the tests were of the same magnitude and averaged about 0.0003. Due to the lower transmissibility, greater drawdowns can be expected in Bayou Casotte than in the city. Figure 27 is a graph comparing the amount of interference that can be expected between two wells in the Graham Ferry Formation having the coefficients determined in the two areas. Electrical and drillers' logs show considerable variation in total thickness of sand in the formation; for this reason, the transmissibility will vary from place to place. The short period of pumping in Bayou Casotte has resulted in a decline in water levels that equals the decline recorded in the city over a much longer period of time. This decline is due to the concentration and amount of pumping and the lower transmissibility.

Records and estimates indicate that about 1,500 gpm (2.2 mgd) was pumped on the average day in 1959 and 1960 from the Graham Ferry Formation at Bayou Casotte. By using coefficients of transmissibility and storage determined from the test at the Quaker Oats Co. plant (table 20), the effect on the city wells was calculated with the Theis equation for a period of 1 year of steady operation and a distance of 4 miles between the center of pumping at Bayou Casotte and city well P113. The interference amounted to 10 feet. However, there has not been that large a decline in water levels in any of the city wells in 1959 and 1960.

A shaly zone which would form a partial barrier to free movement of ground water may exist in the aquifer near the ground-water divide between the municipal and the Bayou Casotte well fields. The inference may be drawn that recharge has developed either (1) from within the area, through contribution of water from overlying and underlying beds caused by reduction in pressure in the aquifer, or (2) from movement of water into the area at a more rapid rate owing to a hydraulic connection with the Citronelle Formation in the vicinity of the Escatawpa River (pl. 10; fig. 28). The recharge probably is due to a combination of these causes.

The Graham Ferry Formation is recharged in the uplands west of Pascagoula River where it is exposed in the hills north of Vancleave. Here the formation is overlain in places by the Citronelle Formation, which discharges water to the streams and permits some water to

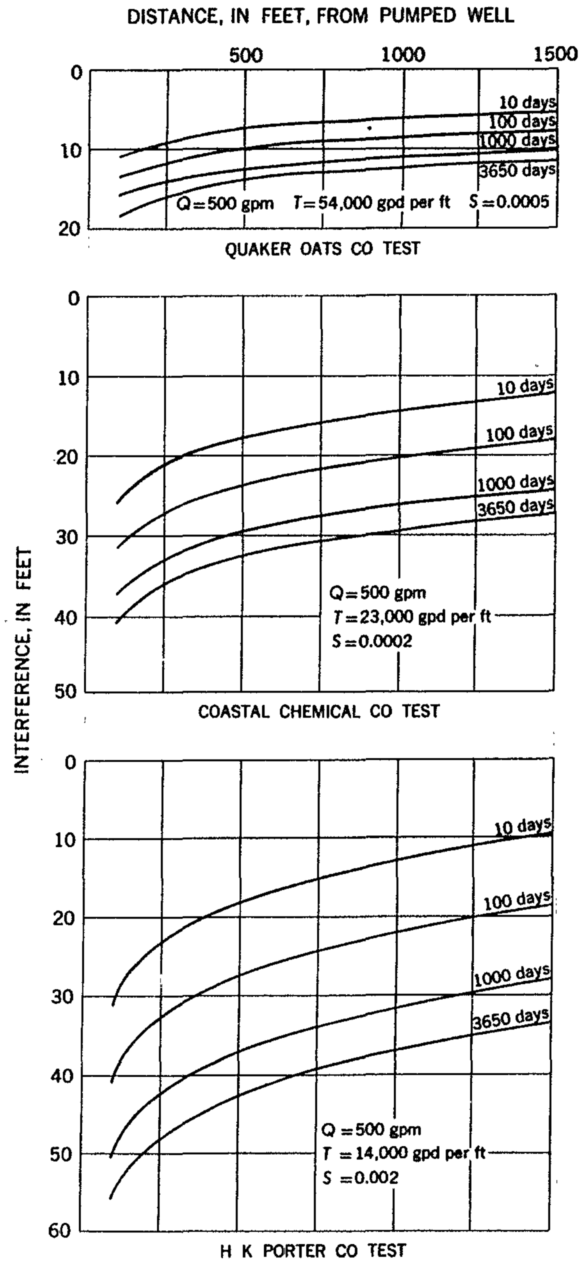

FIGURE 27.—Yield-drawdown relationship of the Graham Ferry Formation.

infiltrate the Graham Ferry beneath it. Recharge also occurs indirectly through the alluvium, terrace deposits, and Citronelle Formation on the broad terrace north of Escatawpa River. Because the recharge area is not far distant, a perennial supply of water is available to replace much of the water used near the coast. The piezometric map (pl. 4) indicates the direction of movement of ground water under confined conditions into the drawdown cone. Lower mineralization of the water to the west and northwest indicates a source of recharge in that direction.

Because of the proximity of the recharge area, an amount of water equal to that pumped in 1959–60 from this formation in the Pascagoula area can be developed without seriously impairing the quality of the water. Deeper pump settings will be required as pumpage increases.

The piezometric map (pl. 4) shows the form of the water surface and the elevation at which water stood in wells in the winter of 1959–1960. Pumping has created drawdown cones; the depth of the cone depends on the rate and duration of pumping, transmissibility of the aquifer, and location of centers of pumping. Three cones exist in the area: Kreole, Pascagoula, and Bayou Casotte. From the area of the cones to Escatawpa, the piezometric surface rises until it coincides approximately with the piezometric surface in the overlying Citronelle. Ground water moves into the area of heavy pumpage from the north and northwest. West of Pascagoula River the influence of pumping in Pascagoula is reflected in the water levels, which are somewhat lower than in the overlying and underlying aquifers.

Summarizing, the rate of decline apparently is not much different early in 1961 from what it has been for the long period, although the amount of water pumped in 1961 is greater. This stability means that if use had not increased, the rate of decline during the past 3 years would have been less. It follows also that as demand continues to increase, water levels in the area will decline at about the same rate unless the demand is sharply accelerated.

Although localities exist where little sand is present in the Graham Ferry, as in the northern part of Bayou Casotte industrial area, the sand can be traced to the east. The sand is thick in the western part of Pascagoula and Gautier. These are areas for additional development of water supplies from the aquifer. Although pumping tests have not been made west of the river, the transmissibility probably is about the same as that determined in Pascagoula. Additional pumpage in the Gautier area will decrease the quantity of water moving into Pascagoula and will lower water levels in the city.

Figure 26 shows the relationship between depth of the aquifer and available pressure head remaining for additional development. Profile of the piezometric surface was taken from the piezometric map (pl. 4), but the thickness and uniformity of the aquifer are generalized between the drawdown cones. If the use of water from the aquifer is doubled or tripled, certain wells should be monitored to detect the presence and source of any possible increase in chloride content. The natural recharge can be supplemented by reinjection of water.

CHEMICAL QUALITY

Water from the Graham Ferry Formation is of a sodium bicarbonate type and has a relatively high percentage of chloride in some places. The water is soft (hardness ranged from 7 to 52 ppm in samples analyzed) and slightly colored. The iron content usually is less than 0.5 ppm; however, water from three wells in the Moss Point area had an iron content ranging from 1.2 to 2.6 ppm. The dissolved-solids content of the water generally increases in a southeasterly direction. Observed maximum and minimum concentrations of the predominant constituents and the dissolved solids in water samples analyzed are summarized in the following table.

Chemical analyses, in parts per million, of water from the Graham Ferry Formation

Constituent	Concentration	
	Maximum	Minimum
Sodium (Na)	272	55
Alkalinity (HCO_3+CO_3)	576	144
Chloride (Cl)	205	12
Dissolved solids	766	226

Results of analyses of water from the Graham Ferry Formation are shown in table 22. The chemical character of the water is similar to that of water from the Pascagoula Formation; this similarity indicates that the individual chemical characteristics of the water probably are a result of the same type of environmental conditions. For the most part the higher concentration of chloride in the Pascagoula area is a result of incomplete flushing of the sea water that was trapped in the sediments at the time of their deposition. The high sodium bicarbonate content of water is a result of the same series of reactions, involving calcium carbonate, base-exchange minerals, and carbonaceous material, that produce the high sodium bicarbonate water in the Pascagoula Formation.

Analyses of water from wells west of Pascagoula River show that a marked decrease in chloride content occurs in the direction of

Ocean Springs and Vancleave (pl. 12). This decrease may be due to the nearby source of recharge in the uplands north of Vancleave. The piezometric map (pl. 4) shows that ground water is moving southeastward from the Vancleave area toward Pascagoula and that the chloride content increases in the same direction.

Four wells (P68, Q100, Q101, and Q111) were sampled periodically to monitor the chloride content of water in the Graham Ferry Formation. The variation in chloride (see table 22) did not indicate any salt-water intrusion in the aquifer. The analyses are indicative of the magnitude of variation of chloride content in water from this formation.

CITRONELLE FORMATION AND TERRACE DEPOSITS

STRATIGRAPHY

The Citronelle Formation and terrace deposits are considered together as a hydrologic unit, although the Citronelle is an older deposit and underlies the terrace deposits along the coast. The Citronelle Formation is extensive; it blankets the uplands in the northern part of Jackson County and a large part of George County. The areal extent of the Citronelle and terrace deposits is shown on the geologic map (pl. 1). West of Pascagoula River the Citronelle has been more deeply eroded and is less extensive than in the area east of the river. From the outcrop the formation dips beneath the surface south of Big Point where it is overlain by a progressively thickening section of alluvial and marine terrace deposits at the coast line. The base of the formation drops 350 feet from Lucedale to Bayou Casotte at an average dip of 8 feet per mile south (pl. 6). The contact with underlying formations is unconformable, irregular, and marked in many places by a distinct change in color and material. The locations and altitudes of a few contacts are shown in plate 6.

The contact between the Citronelle Formation and the underlying Pascagoula or Graham Ferry Formation is marked usually by coarse sand and gravel underlain by purple weathered clay. Layers of crossbedded sand alternating with beds of clay balls occur in many places in the lower part of the Citronelle. Petrified wood is common in many exposures. Gravel is irregularly distributed, but generally more conspicuous in the lower part of the formation and in the terrace deposits bordering the river. In the subsurface near the coast, the base of the Citronelle was traced in sample cuttings by the first appearance of gray carbonaceous or pale green clay of the underlying Graham Ferry. Electrical logs of water wells usually show a distinct change in character of the resistivity curve at the contact.

The formation increases in thickness from zero, where it is completely eroded away on the upland slopes, to more than 100 feet near the coast. Near Lucedale, the formation is as much as 80 feet thick. As much as 100 feet of coarse sand occurs in one unbroken unit at Bayou Casotte. Elsewhere the unit may consist of lenses of coarse sand separated by carbonaceous or fossiliferous clay and sandy clay.

East of Pascagoula River a practically continuous blanket of sand, comprising the Citronelle Formation and terrace deposits, covers the surface from the northern edge of George County to Pascagoula. The blanket thins southward to Harleston, where there is only about 20 feet of sand, and thickens again farther south. On the terrace west of Hurley, sand and gravel deposits similar in content, texture, and lithology to the Citronelle reach 100 feet in thickness. These are mapped as terrace deposits at the surface, but the lower part of the sand and gravel unit south of Big Point may be Citronelle inasmuch as it continues uninterrupted into the coarse sand at the coast. The Citronelle apparently continues beneath the alluvial fill of the Pascagoula River and thins west of Gautier.

The Citronelle is thicker and more uniform in texture near the coast in the vicinity of the Pascagoula River valley, and it thins both east and west of the valley (pl. 10). In Bayou Casotte the sand is massive but thins to some extent northward toward Kreole. Logs of wells north of Escatawpa River show an abundance of coarse sand equal in thickness to the Citronelle farther south. On the broad terrace partly occupied by Black Creek Swamp, sand and gravel is uniformly distributed; it increases in thickness from 60 feet below the escarpment west of Hurley to about 80 feet near the Pascagoula River west of Wade.

HYDROLOGY

The source of the water in the Citronelle Formation and the associated terrace deposits is precipitation on the area. As noted earlier, the belt of highest rainfall, which extends across George County, coincides with the greatest upland accumulation of deposits of the Citronelle. Although only a very small percent of the total precipitation percolates to the water table, the volume is considered large because of the extensive area involved and the permeable nature of the material. In the higher parts of the area, as much as 40 feet of saturated sand and gravel exists above the top of the Miocene formations under water-table conditions. Water moves laterally in all directions from the underground reservoir to the tributary streams of Pascagoula and Escatawpa Rivers. Because of the relatively slow movement through the Citronelle and terrace deposits, a large volume of water is discharged fairly evenly by the numerous contact springs to the streams throughout the year.

From Lucedale to the coast the water table conforms to the land surface (pl. 6). In the uplands, where the land surface is from 250

to 300 feet above sea level, the water table stands as much as 60 feet below the surface. Water-table conditions generally exist at least as far south as Wade and Hurley. In the broad flat area south of Wade, the water table stands within a few feet of the surface. The presence of clay beds in the lowlands causes semiartesian conditions. At the coast line, where artesian conditions exist and the aquifer is buried beneath 50 to 100 feet of clay, silt, and fine sand, the piezometric surface stands from 3 to 15 feet below land surface, or very nearly at sea level. Plate 14 shows variations in the saturated thickness of the Citronelle Formation and terrace deposits east of the Pascagoula River.

Many domestic wells derive water from the Citronelle and terrace deposits. A few industrial wells and one municipal well are completed in the Citronelle Formation at depths of 150 feet along the north side of Escatawpa River and in Moss Point. Hydrographs of two wells in the Citronelle Formation are presented in figure 28. In the Escatawpa area some logs show the presence of sand and gravel to a depth of 230 feet, considerably below the depth to which the Citro-

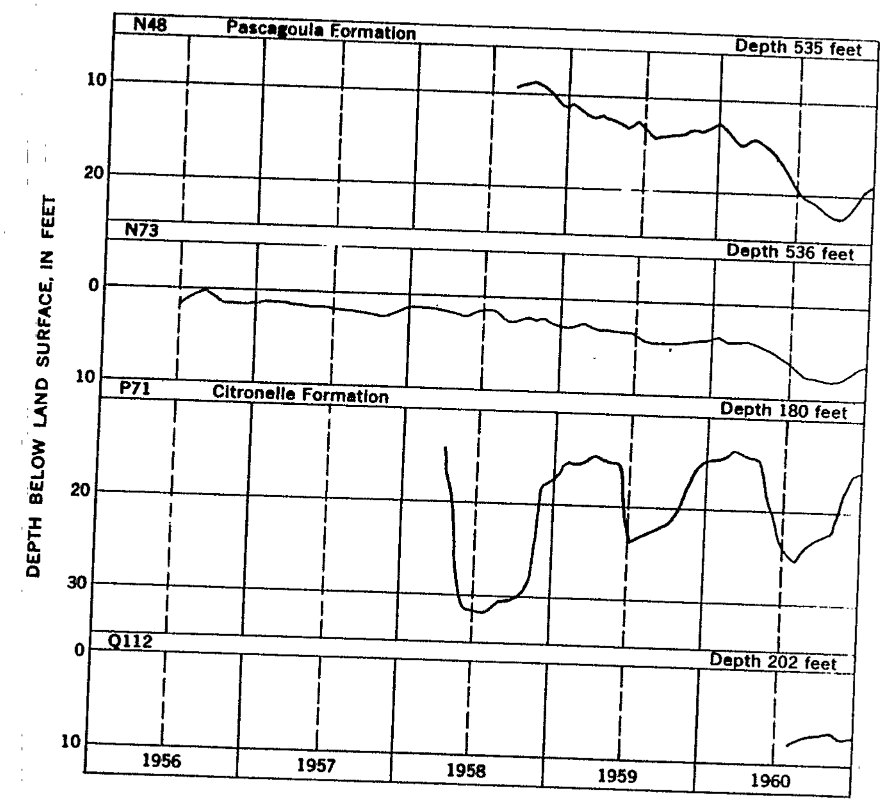

FIGURE 28.—Hydrographs of wells in the Pascagoula and Citronelle Formations.

nelle should extend. The clay bed normally present between the Graham Ferry and Citronelle apparently is absent in places, and the water from the deeper aquifer at 230 feet is similar in chemical quality to that from 150 feet. The iron content, particularly is unusually high for a well completed in the Graham Ferry. Altitudes of water levels in these wells were used on the water-level contour map of the Citronelle Formation and terrace deposits, and they indicate a drawdown cone in the center of the Escatawpa River industrial area. These water levels fit the piezometric map of the Graham Ferry Formation equally well.

In the uplands, ground water is discharged from the Citronelle at its contact with the underlying clay beds of the Pascagoula and Graham Ferry Formations. The discharge area of the Citronelle Formation farther south is in the alluvial valley of Pascagoula River and south of the coast line beyond Horn Island. Movement of water through the formation in the vicinity of Escatawpa and Pascagoula is relatively slow because the water surface is nearly level. The quantity of water passing through the aquifer toward the gulf and the river is directly proportional to the hydraulic gradient. It is estimated that 3 to 5 mgd of water is discharging across the 10-foot contour to the Pascagoula River and the gulf. Increasing the hydraulic gradient by increasing the draft on the aquifer will speed the southerly flow of water. Only a small part of the water that normally discharges into the gulf is intercepted by wells.

A pumping test was made on the aquifer at Bayou Casotte to determine the coefficients of transmissibility and storage and the differences in chloride content of the water. Plate 15, in addition to being a geologic section, shows the differences in chloride content of the water and variations in thickness of the aquifer. The test was laid out along a north-south line 5,900 feet long (fig. 29) and was run continuously for 21 days. The transmissibility of the aquifer was determined for each of the wells by using the Theis nonequilibrium method and the Thiem equilibrium method. The values were nearly uniform for all the wells except for a lower value of transmissibility at the north well (O–1), which is indicative of an increasing clay content in the formation in that direction. This increase had been noted earlier in wells drilled in the vicinity of U.S. Highway 90. The application of the test results to future ground-water development in the Bayou Casotte industrial area is discussed under "Potential Development" pages. The yield-drawdown relationship determined from the pumping test is shown in figure 30.

CHEMICAL QUALITY

The chemical character of water from the Citronelle Formation and from the terrace deposits is similar. In the upland areas the

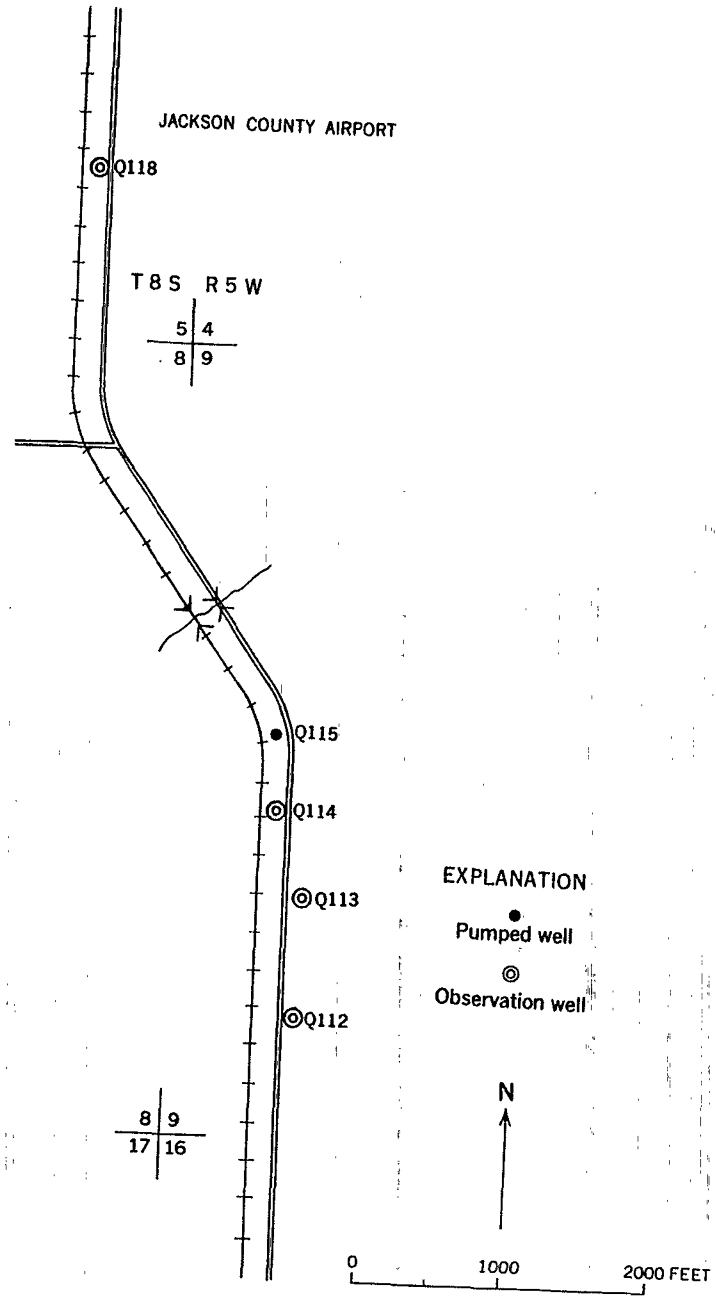

FIGURE 29.—Layout of pumping test in Bayou Casotte area.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CERCLA
SECTION

CHARACTERIZATION OF AQUIFERS DESIGNATED AS POTENTIAL DRINKING WATER SOURCES IN MISSISSIPPI

by L. A. Gandl

Water-Resources Investigations
Open-File Report 81-550

Prepared in cooperation with the

Mississippi Department of Natural Resources,
Bureau of Pollution Control

Jackson, Mississippi
1982

Reference 20

Agricultural chemicals used in the heavily farmed area may be a source of contamination of the aquifer in some places.

Gravel is mined from the Mississippi River valley alluvial aquifer and from other alluvium in the state. Mining of gravel and possible future mining of lignite locally may cause changes in recharge to the aquifer and quality of water in the aquifer.

Citronelle Aquifers

The Citronelle aquifers are made up of many discontinuous, hydrologically independent aquifers. They are present in the state from around 32° latitude southward (fig. 8). The beds are exposed at the surface over most of their area of occurrence and are present primarily on hilltops. Along stream valleys they have been eroded to expose the underlying Miocene beds. The aquifers dip southward at about 6 ft/mi and the dip becomes steeper near the coast where they are overlain by coastal terraces. The aquifer is thickest and less dissected near the coast but rarely exceeds 100 feet thick. The Citronelle is made up of quartz sand, chert gravel, and lenses and layers of clay. It is a major source of gravel in the state.

The Citronelle Formation commonly is only partially saturated. It is a water table aquifer with water levels which vary from place to place due to the discontinuous nature of the aquifer. The low water levels vary seasonally, but are little affected regionally by pumpage because very little water is withdrawn. Locally however, water levels are lowered rapidly by pumpage. Recharge is from rainfall directly on the outcrop, and water moves quickly both vertically and downdip, recharging the underlying Miocene aquifers and sustaining local streams.

Six aquifer tests indicate transmissivities ranging from 4,000 to 13,000 ft^2/d, hydraulic conductivities of 82 to 200 ft/d, and specific capacities of 6.2 to 46 (gal/min)/ft of drawdown (Boswell, 1979a). The limited saturated thickness and limited storage capacity of the Citronelle limits its use. Large wells can be developed in the Citronelle, but a larger and more reliable source is available from the underlying Miocene aquifers.

Dissolved-solids concentrations of water in the Citronelle are less than 500 mg/L except at places along the coast where seawater is in contact with the aquifer. At most localities the water is high in iron content. In addition to local contamination by seawater along the Gulf Coast, the Citronelle may be contaminated by landfills in old gravel pits, by sewage, and by industrial and oil field wastes in surface pits. Most of the wastes in the area are dispersed through area streams, but some move into the underlying Miocene aquifer system.

Miocene Aquifer System

The Miocene aquifer system crops out in most of the southern one-third of the state (fig. 9) except where it is covered by younger coastal deposits and the Citronelle Formation. The aquifer system is composed of numerous interbedded layers of sand and clay that include

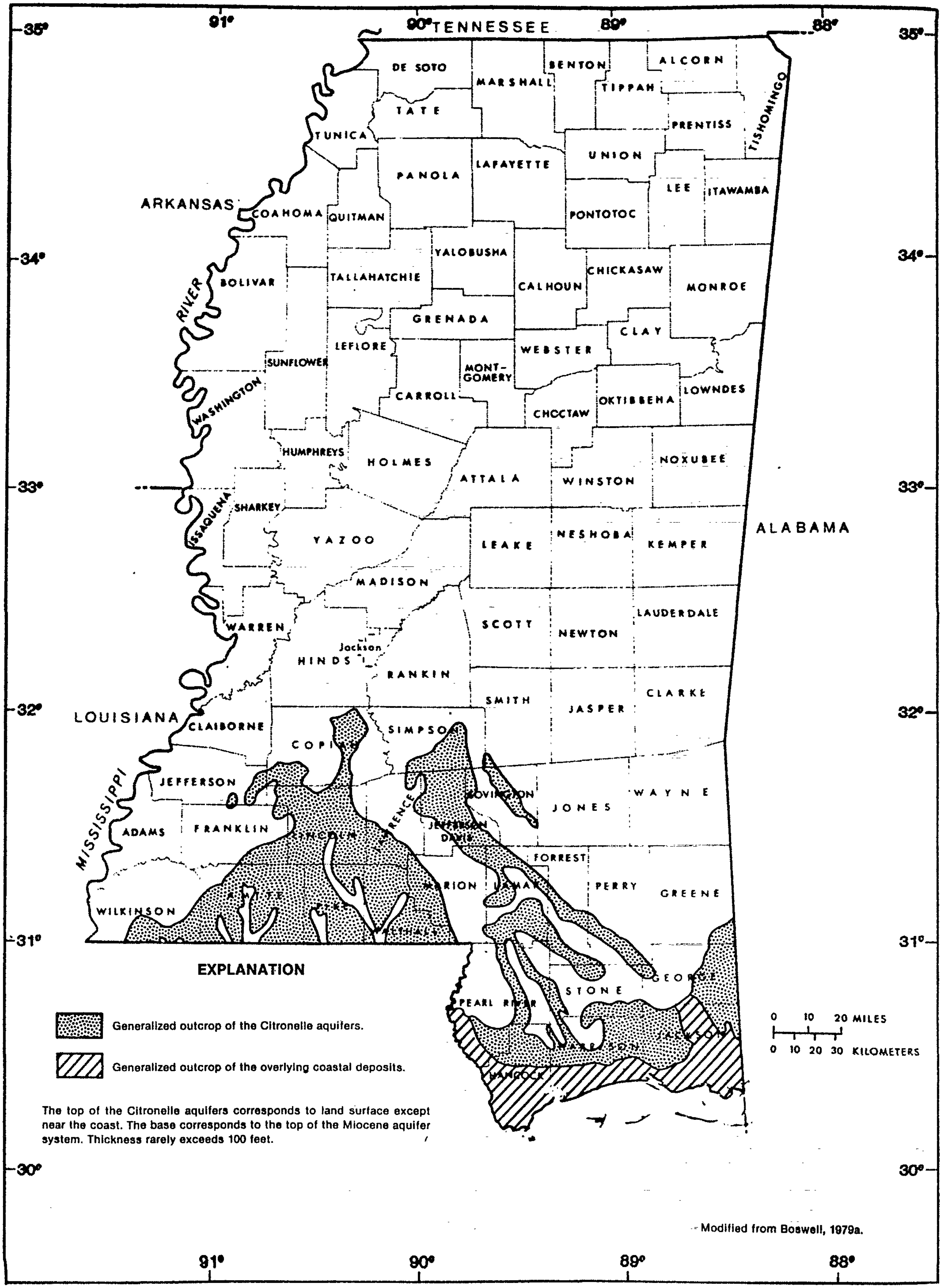

Figure 8. — Outcrop of the Citronelle aquifers and overlying coastal deposits.

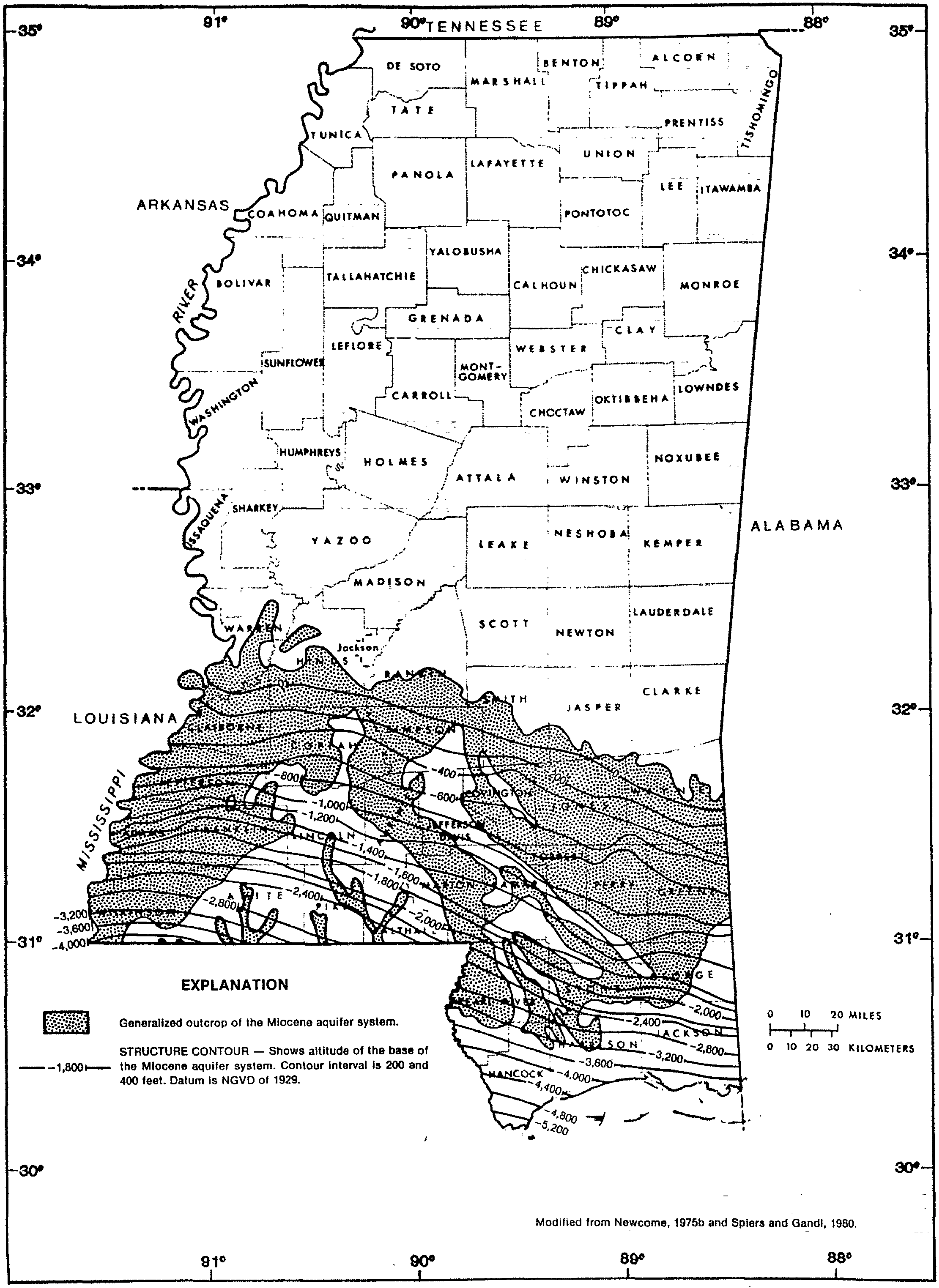

Figure 9. — Configuration of the base of the Miocene aquifer system.

the Pascagoula and Hattiesburg Formations, and the Catahoula Sandstone. Because of their interbedded nature, the formations cannot be reliably separated and correlated either on the surface or in the subsurface. The formations dip southwestward at 30 to 100 ft/mi and the dip steepens towards the coast. The aquifer system thickens as the dip steepens (fig. 10), and the thickness exceeds 3,000 feet near the coast. Within that 3,000 feet, the sand beds alone are over 1,000 feet thick, although the deepest beds do not contain freshwater (fig. 11).

The shallowest sands of the Miocene aquifer system are water-table aquifers, but the deeper sands are confined and are fully saturated. Water levels in the Miocene aquifers vary, but usually range from a few feet above land surface to 100 feet below land surface. Water levels have been regionally declining by 1 to 2 ft/yr, although the decline is greater near some centers of pumpage.

Recharge to the Miocene aquifers is from rainfall directly on the outcrop, seepage from the overlying Citronelle Formation, and leakage between aquifer units of the Miocene aquifer system.

Water movement is downdip, towards center of pumpage, and between aquifers of the system. The underlying Oligocene formations and in particular the clay of the Bucatunna Formation prevents movement between the Miocene and Oligocene aquifer systems.

The Miocene aquifers are a very prolific source of ground water. Aquifer test results have indicated transmissivity values averaging 13,000 ft^2/d. Hydraulic conductivities determined from the tests average 95 ft/d, and specific capacities are as high as 30 (gal/min)/ft of drawdown (Newcome, 1975b).

Wells in the Miocene usually tap only the upper aquifers because abundant water is available at shallow depths. Much freshwater in the deeper aquifers is available but undeveloped. The aquifers are utilized for small domestic wells and large municipal and industrial wells.

Water in the Miocene aquifers commonly is a soft sodium-bicarbonate type. Excessive iron is found in samples from some locations, but this is at places due to corrosion of pipes. Downdip near the coast, water in the deeper sand beds is saline (fig. 11). However, freshwater may be available on the offshore islands at estimated depths as great as 2,200 feet below sea level in some places.

The shallow Miocene aquifers have been contaminated in places by improperly sealed surface disposal sites and by leakage from disposal sites in the overlying Citronelle Formation (Boswell, 1979a). The deepest Miocene aquifer, the Catahoula Sandstone, is used for brine disposal in Adams, Wilkinson, and Hancock Counties (Bicker, 1972).

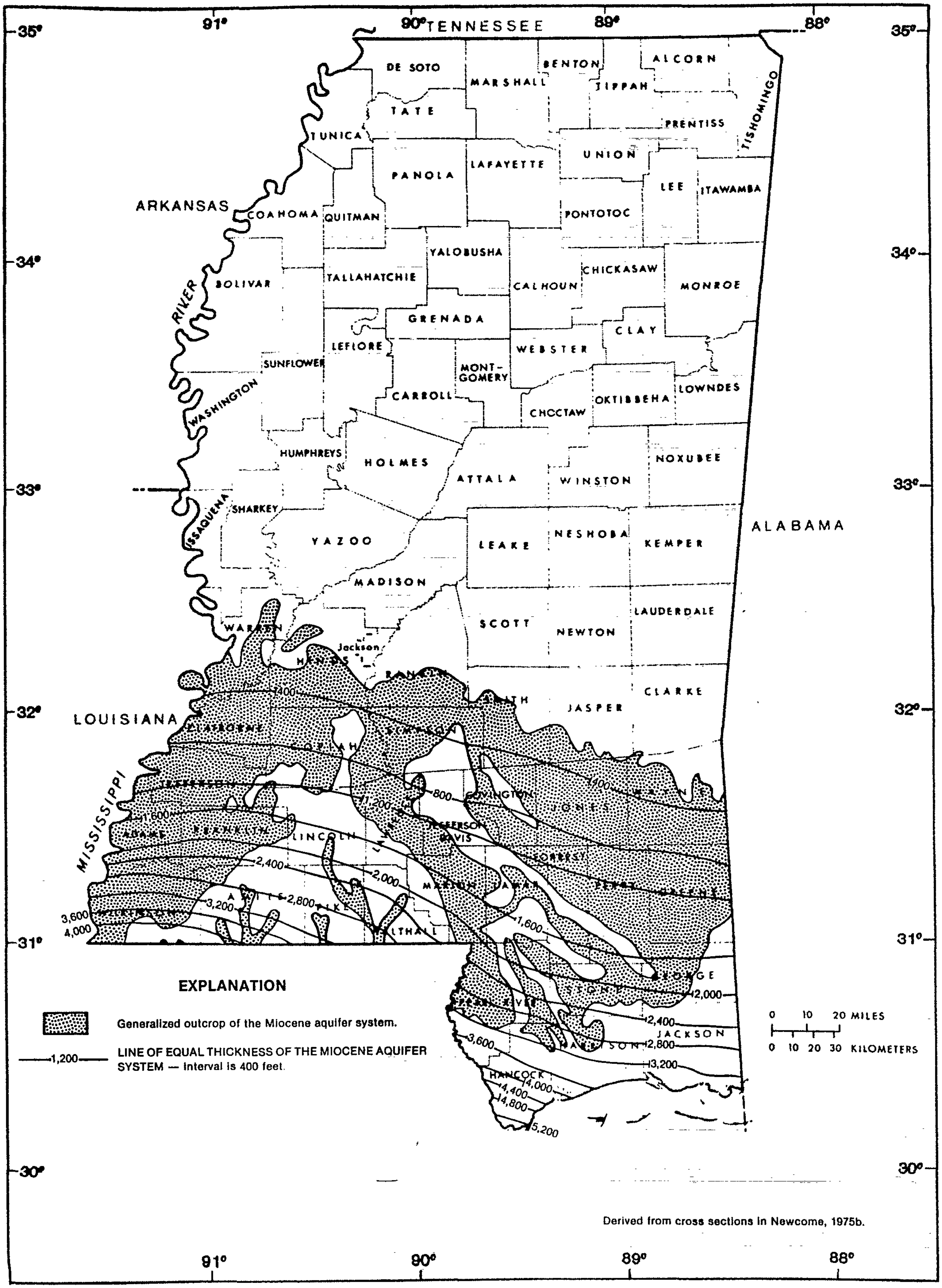

Figure 10. — Thickness of the Miocene aquifer system.

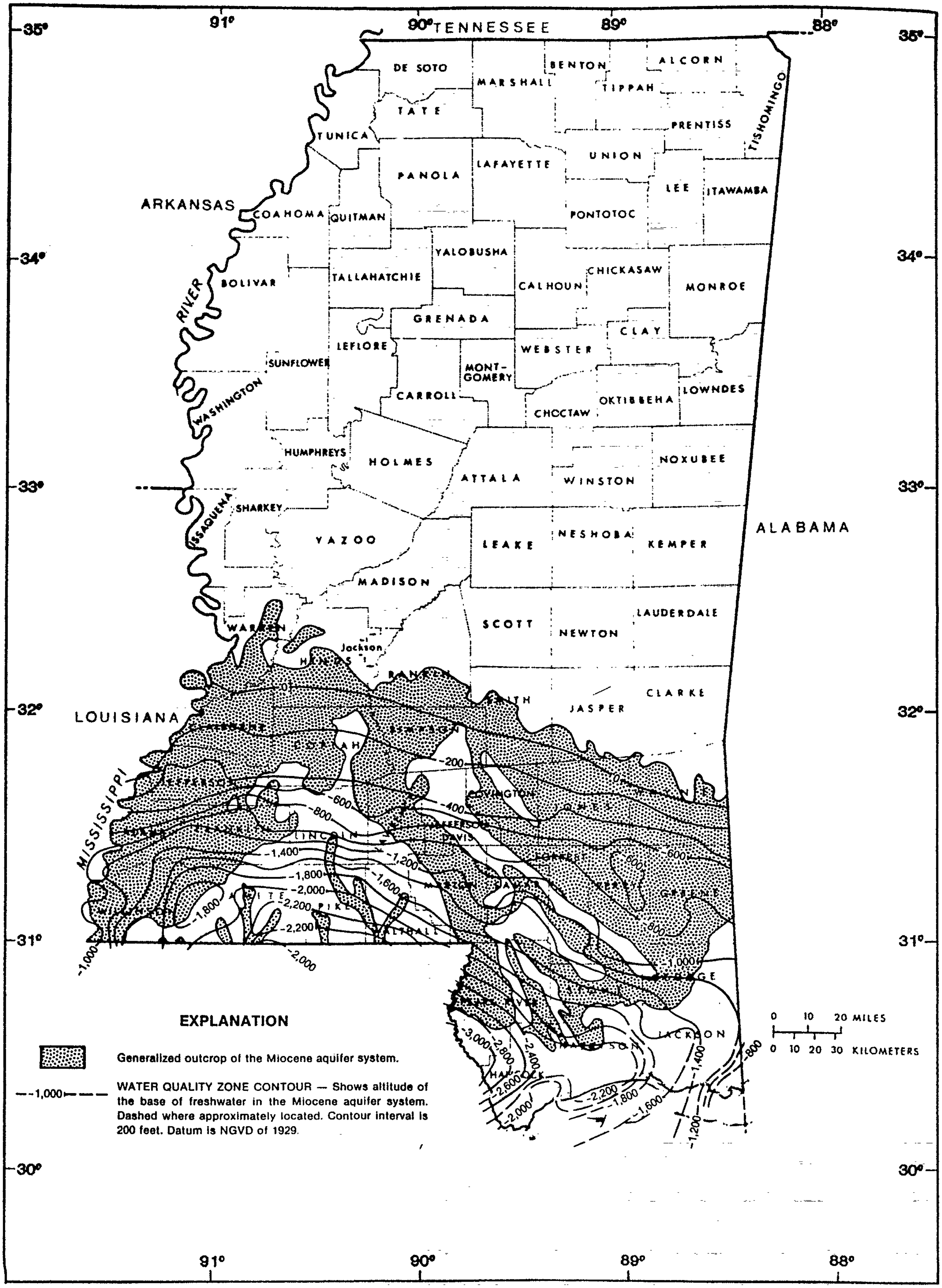

Figure 11. — Configuration of the base of freshwater in the Miocene aquifer system.

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STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

April 2, 1996

Mr. Brian Farrier
Site Investigation and
Support Branch
Waste Management Division
U.S. EPA - Region IV
345 Courtland Street, N.E.
Atlanta, GA 30365

Re: Preliminary Assessment (PA) Report
Halter Marine, Inc.
MSD 008208696
Moss Point, Jackson County, Mississippi

Dear Brian:

Enclosed is the Preliminary Assessment Report for Halter Marine, Inc. If you have any questions, please contact John Andrews, phone (601)961-5301 .

Sincerely,

Phillip Weathersby

Phillip Weathersby
Cercla Section

JA:pl

Enclosure

March 1, 1996

HAZARDOUS RANKING SYSTEM PRELIMINARY SCORE
for
HALTER MARINE, INC.
MSD008208696
MOSS POINT, JACKSON COUNTY, MISSISSIPPI

Waste Characteristics

A hazardous waste quantity of 10 was assigned and used for the groundwater, surface water, and the soil pathways. The air pathway was not scored. This value was based on the most conservative estimate using the entire 39 acres of the site.

Groundwater

The groundwater pathway was evaluated on a potential to release to the near surface groundwater. No analytical data is present to document contamination of the Miocene aquifer system.

Surface Water

The surface water pathway was scored on potential to release. The nearest perennial water body is Bounds Lake which borders the property to the south.

Soil

The soil pathway was evaluated on likelihood of exposure. No analytical data is present to document contamination on the premises.

Air

The air pathway was not evaluated.

Facility score = 10.7973

Sgw = 21.58
Ssw = 0.416
Sse = 0.6792
Sa = Not scored

Department of Environmental Quality

ENGINEERING CHART

SHEET NO. 1 OF 1

FILE

APPN

DATE March 1, 1996

BY John Andrews

SUBJECT Halter Marine, Inc.
MSD 008208696, Moss Point, Jackson County, Mississippi

CALCULATION OF H.R.S. SCORE

Pathway	Release	Score	$Score^2$
Groundwater Pathway Score	Potential	21.58	465.6964
Surface Water Pathway score	Potential	0.416	0.1731
Soil Exposure Pathway score	Likelihood of exposure.	0.6792	0.4613
Air Migration Pathway score	Not scored.	—	—
		Total	466.3308

$$\text{Facility Score} = \sqrt{\frac{466.3308}{4}}$$

$$\text{Facility Score} = 10.7973$$

Department of Environmental Quality

ENGINEERING CHART

SHEET NO. 1 OF 15

FILE

APPN

SUBJECT Halter Marine

DATE March 1, 1996

BY John Andrews

GROUNDWATER MIGRATION PATHWAY SCORESHEET

Aquifer - Miocene including the Graham Ferry

Likelihood of Release to an Aquifer

1. Observed Release

observed release to the groundwater — 0

2. Potential to Release

2a. Containment

Table 3-2

No evidence of hazardous substance migration, container area surrounded by dike — 9

2b. Net Precipitation

Annual precipitation - 64

Annual lake evaporation - 47

Net precipitation - 17

Table 3-4

Greater than 15 to 30. — 6

2c. Depth to Aquifer

Aquifer depth - 5' thickness of sandy loam top soil.

Contamination depth - 0

Table 3-5 5'

Since the Alluvium/Terrace deposits and the Citronelle are considered a hydraulic unit and the clay bed between the Graham Ferry + Citronelle is absent in places in the Escatawpa/Moss Point area, the Graham Ferry is considered hydraulically connected to the alluvium. — 5

2d. Travel Time

Table 3-6

sandy loam 10^{-4}

Table 3-7

Greater than 3 to 5 — 35

(see 2C above)

Department of Environmental Quality

ENGINEERING CHART

SHEET NO. 2 OF 15

FILE

APPN

DATE

BY

SUBJECT Halter Marine

2e. Potential to Release
[lines 2a (2b + 2c + 2d)]
9(6 + 5 + 35) — 414

3. Likelihood of Release
(higher of lines 1 and 2e) — 414

Waste Characteristics

4. Toxicity/Mobility

substance	S.W. Mobility H.S.R.	Toxicity H.S.R.	Tox/Mob Tab. 3-9
carbon tetrachloride	1×10^{-2}	1000	10
pyridine	1×10^{0}	1000	1000
toluene	1×10^{-2}	10	0.1
xylene	1×10^{-2}	10	0.1

Highest Value 1000

5. Hazardous Waste Quantity
Table 2-5; Tier D; contaminated soil.
Because there is no documentation of sampling investigations, for purposes of this report, the total area of the facility was used to determine waste quantity.
39 acres x 43,560 ft²/acre = 1,698,840 ft² ÷ 34,000 = 49.9658

Table 2-6 default to 10 There has been no removal.
refer to para. 2.4.2.2 pg 51592 — 10

6. Waste Characteristics
Tox/Mob X Haz Wa. Quan.
$(1 \times 10^3) \times (1 \times 10^1) = 1 \times 10^4$
Table 2-7 — 10

Department of Environmental Quality

ENGINEERING CHART

SHEET NO. 3 OF 15

FILE

APPN

DATE

BY

SUBJECT Halter Marine

7. Nearest Well

Q013 located 1/4 mi. to the NE of the facility. It is screened in the Miocene at 970 feet.

Table 3-11 — 20

8. Population

8a. Level I Concentrations — 0

8b Level II Concentrations — 0

8c. Potential Contamination

Distance mile(s)	# Home Wells		# Public Wells	# Public Well Conn.		Total Popul.	Value Tab. 3-12
0 - 1/4						0.0	0
1/4 - 1/2	[1	+	0		] 2.82 =	2.82	2
1/2 - 1	[11	+	0		] 2.82 =	31.02	17
1 - 2	[46	+	3A + 5B		] 2.82 =	18,971.55	2,939
2 - 3	[77	+	1B + 1C		] 2.82 =	5,447.68	678
3 - 4	[150	+	3C		] 2.82 =	7,614.00	417
					Total	32,067.07	4,053

A. Escatawpa $\frac{2210}{4} = \frac{552.5}{well}$

B. Moss Point $\frac{6029}{6} = \frac{1,004.8}{well}$

C. Pascagoula $\frac{8500}{10} = \frac{850}{well}$

1990 Census — persons/household

PC = 1/10 (4,053) — 405

8d. Population (lines 8a + 8b + 8c) — 405

9. Resources — 5

10. Wellhead Protection Area

Mississippi has no wellhead protection program — 0

Department of Environmental Quality

ENGINEERING CHART

FILE

APPN

DATE

BY

SUBJECT Halter Marine

11. Targets
(lines 7 + 8d + 9 + 10)
20 + 405 + 5 + 0 — 430

Groundwater Migration Score for an Aquifer

12. Aquifer Score
[(lines 3 x 6 x 11) ÷ 82,500]
(414 x 10 x 430) ÷ 82,500 = 21.578182 — 21.58

Groundwater Migration Pathway Score

13. Pathway Score
(value from line 12) — 21.58

Department of Environmental Quality

ENGINEERING CHART

SHEET NO. 5 OF 15

FILE

APPN

DATE

BY

SUBJECT Halter Marine

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

DRINKING WATER THREAT

Likelihood of Release

1. Observed Release
   observed release to the surface water — 0

2. Potential to Release by Overland Flow

2a. Containment
Table 4-2
No evidence of hazardous substance migration from source area and: neither 1) maintained engineered cover, or 2) functioning + maintained run-on control system and run-off management system. — 10

2b. Runoff
Drainage source areas and areas upgradient
Table 4-3
the area of the site is 39 acres — 1
Table 4-4
Lynchburg sandy loam — B
Table 4-5
6.5 inches 2yr-24hr rainfall — 4
Table 4-6 — 1

2c. Distance to Surface Water

Table 4-7 Less than 100 feet
Bounds Lake is on the southern boundary of the facility — 25

2d. Potential to Release by Overland Flow
[line 2a (2b + 2c)]
10 (1 + 25) — 260

Department of Environmental Quality

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FILE
APPN
DATE
BY

SUBJECT Halter Marine

3. Potential to Release by Flood

3a. Containment (Flood)
Table 4-8 — 10

3b. Flood Frequency
Table 4-9 — 100-yr floodplain
Elevation of site is approx 6 feet above sea level. — 25

3c. Potential to Release by Flood
(lines 3a X 3b)
10 X 25 — 250

4. Potential to Release
(lines 2d + 3c)
260 + 250 = 510 ⇒ max. value 500 — 500

5. Likelihood of Release
(higher of lines 1 and 4) — 500

Waste Characteristics

6. Toxicity/Persistence

substance	Toxicity H.S.R.	Persist H.S.R.	Fac. Value Tab. 4-12
Carbon tetrachloride	1000	0.4	400
pyridine	1000	1.0	1000
toluene	10	0.4	4
xylene	10	0.4	4

Highest Value 1000

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ENGINEERING CHART

FILE

APPN

DATE

BY

SUBJECT Halter Marine

7. Hazardous Waste Quantity

Table 2-5; Tier ;

see Part 5 on Sheet No 2 (Groundwater Pathway)

Table 2-6

10

see Part 5 on sheet No. 2 (Groundwater Pathway)

8. Waste Characteristics

Tox/Pers. x Haz. Wa. Quan.

$(1 \times 10^3) \times (1 \times 10^1) = 1 \times 10^4$

Table 2-7 — 10

Targets

9. Nearest Intake

0

10. Population

10a. Level I Concentrations — 0

10b. Level II Concentrations — 0

10c. Potential Contamination — 0

10d. Population

(lines 10a + 10b + 10c)

0 + 0 + 0 — 0

11. Resources

5

FILE
APPN
DATE
BY

SUBJECT Halter Marine

12. Targets
(lines 9 + 10 + 11)
0 + 0 + 5 — 5

Drinking Water Threat Score

13. Drinking Water Threat Score
[(lines 5 x 8 x 12) ÷ 82,500]
(500 x 10 x 5) ÷ 82,500 = 0.303 — 0.303

HUMAN FOOD CHAIN THREAT

Likelihood of Release

14. Likelihood of Release
(Same value as line 5) — 500

Waste Characteristics

15. Toxicity / Persistence / Bioaccumulation

substance	Toxicity H.S.R.	Persis. H.S.R.	Bioacc. H.S.R.	Tox/Pers. Tab 4-12	Tox/Pers/Bio. Tab 4-16
carbon tetrachloride	1000	0.4	50	400	2×10^4
pyridine	1000	1.0	0.5	1000	500
toluene	10	0.4	50	4	200
xylene	10	0.4	50	4	200

Highest Value — 2×10^4

16. Hazardous Waste Quantity
(Same value as line 7) — 10

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ENGINEERING CHART

FILE

APPN

DATE

BY

SUBJECT Halter Marine

17. Waste Characteristics

Tox/Pers. x Haz. Ws. Quan. x Bioacc.

$(4 \times 10^2) \times (1 \times 10^1) \times (5 \times 10^1) = 20 \times 10^4$ or 2×10^5

Table 2-7 — 18

Targets

18. Food Chain Individual

para. 4.1.3.3.1 pg 51620

$0.001 \times 20 = 0.02 \approx 1$

1

19. Population

19a. Level I Concentrations — 0

19b. Level II Concentrations — 0

19c. Potential Human Food Chain Contamination

Fishery —

$$\frac{(w) \times (L) \quad (5{,}280'/mi)}{43{,}560 \text{ ft}^2/\text{acre}} = \text{acres}$$

acres x lbs./acre = lbs. fish

Table 4-18 see back for calculations

Table 4-13

PF = 1/10 ( ) — 0.03441

19d. Population

(lines 19a + 19b + 19c)

0 + 0 + 0.03441 — 0.03441

20. Targets

(lines 18 + 19d) — 1.03441

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DATE

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Human Food Chain Threat Score

21. Human Food Chain Threat Score
[(lines 14 X 17 X 20) ÷ 82,500]
(500 X 18 X 1.03441) ÷ 82,500 — 0.1128

ENVIRONMENTAL THREAT

Likelihood of Release

22. Likelihood of Release
(same value as line 5) — 500

Waste Characteristics

23. Ecosystem Toxicity/Persistence/Bioaccumulation

substance	Eco. Tox H.S.R.	Persist H.S.R.	Eco. Bio. H.S.R.	E.T./Per. Tab 4-20	E.T.P.B. Tab 4-21
Carbon tetrachloride	100	0.4	50	40	2000
pyridine	100	1.0	0.5	100	50
toluene	100	0.4	50	40	2000
xylene	100	0.4	50	40	2000

Highest Value 2×10^3

24. Hazardous Waste Quantity
(same value as line 7) — 10

25. Waste Characteristics

Eco.Tox/Per X Haz. Ws. Quan. X Ecobio. Pot.

$(4 \times 10^1) \times (1 \times 10^1) \times (5 \times 10^1) = 20 \times 10^3$ or 2×10^4

Table 2-7 — 10

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SUBJECT Halter Marine

Targets

26. Sensitive Environments

26a. Level I Concentrations 0

26b. Level II Concentrations 0

26c. Potential Contamination

Table 4-23 = 75 Habitat Known to be used by Federal designated endangered or threatened species

Table 4-24 = 250 9 miles of wetlands

Table 4-13 = 0.0001 The majority of the pathway is Large River & Coastal Tide waters

SP = 1/10 [(75 x 250) 0.0001] 0.00325

26d. Sensitive Environments

(lines 26a + 26b + 26c)

0 + 0 + 0.00325 0.00325

27. Targets

(Value from line 26d) 0.00325

Environmental Threat Score.

28 Environmental Threat Score

[(lines 22 x 25 x 27) ÷ 82,500]

(500 x 10 x 0.00325) ÷ 82,500 = 0.000197 0.000197

SURFACE WATER OVERLAND/FLOOD COMPONENT SCORE FOR A WATERSHED

29. Watershed Score

(lines 13 + 21 + 28)

0.303 + 0.11128 + 0.000197 = 0.415997 0.416

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE

30. Component Score

(Value from line 29) 0.416

Department of Environmental Quality

ENGINEERING CHART

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SOIL EXPOSURE PATHWAY SCORESHEET

RESIDENT POPULATION THREAT

Likelihood of Exposure

1. Likelihood of Exposure — 550

Painting activities are performed on the entire 39 acres

Waste Characteristics

2. Toxicity

Substance	Toxicity H.S.R.
carbon tetrachloride	
pyridine	1000
toluene	1000
xylene	10
	10

Highest Value — 1000

3. Hazardous Waste Quantity
Table 5-2; Tier ;

See Part 5 on Sheet No. 2 Groundwater Pathway

Table 2-6

10

4. Waste Characteristics
Toxicity X Haz. Wa. Quan
$(1 \times 10^3) \times (1 \times 10^1) = 1 \times 10^4$
Table 2-7 — 10

Department of Environmental Quality

ENGINEERING CHART

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Targets

5. Resident Individual

0

6. Resident Population

6a. Level I Concentrations 0

6b. Level II Concentrations 0

6c. Resident Population
(lines 6a + 6b)

0

7. Workers
Number of workers - 300 [101 to 1,000]
Table 5-4 10

8. Resources

0

9. Terrestrial Sensitive Environments

0

10. Targets
(lines 5+6+7+8+9)
0 +0+ 10 +0+ 0 10

Resident Population Threat Score

11. Resident Population Threat
(lines 1 x 4 x 10)
(550 x 10 x 10) 55,000

Department of Environmental Quality

ENGINEERING CHART

SHEET NO. 14 OF 15

FILE

APPN

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BY

SUBJECT Halter Marine

NEARBY POPULATION THREAT

Likelihood of Exposure

12. Attractiveness/Accessibility
    Table 5-6

Surrounded by maintained fence or combination of maintained fence and natural barrier. 5

13. Area of Contamination
    Table 5-7

If considering entire area of 39 acres then total is greater than 500,000 ft^2. 100

39 acres x 43,560 ft^2/acre = 1,698,840 ft^2

14. Likelihood of Exposure
    Table 5-8 50

Waste Characteristics

15. Toxicity
    (same value as line 2) 1000

16. Hazardous Waste Quantity
    (same value as line 3) 10

17. Waste Characteristics
    (same value as line 4) 10

Targets

18. Nearby Individual within ¼ mile

    Table 5-9 1

Department of Environmental Quality

ENGINEERING CHART

SHEET NO. 15 OF 15

FILE

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BY

SUBJECT Halter Marine

19. Population Within One Mile

Distance mile	# Houses Estimated	Population Estimated	Popul. Value Tab. 5-10
0 - 1/4	0	0	
1/4 - 1/2	24	68	0.7
1/2 - 1	(see Note below)	1,117	10.0
		1,185 Total	10.7

Average persons/household, 1990 census - 2.82 Jackson County

PN = 1/10 (10.7) 1.07

Note: (80 houses x 2.82) + [5% (estimated shaded area of Moss Point) x 17,837]

20. Targets
(lines 18 + 19)
1 + 1.07 2.07

Nearby Population Threat Score

21. Nearby Population Threat
(lines 14 X 17 X 20)
50 X 10 X 2.07 1035

SOIL EXPOSURE PATHWAY SCORE

22 Soil Exposure Pathway Score
[(lines 11 + 21) ÷ 82,500]
(55,000 + 1035) ÷ 82,500 = 0.6792 0.6792

Sites," OSWER Directive 9345.1-08). If during any stage of the PA investigation you come across information that leads you to believe the site might be eligible for RCRA Subtitle C corrective action, notify your Regional EPA site assessment contact, who will discuss the situation with representatives of the RCRA program and decide whether to proceed with CERCLA investigative activities.

Table 2-1
RCRA Eligibility Checklist

1. Has the facility treated, stored, or disposed any RCRA hazardous waste for any period of time since November 19, 1980? (If the facility or site is a known "protective filer," check no.)

   ☐ Yes ☐ No

   IF THE ANSWER TO QUESTION 1 IS "NO", STOP; SITE IS NOT ELIGIBLE FOR RCRA RESPONSE.
   IF YES, CONTINUE WITH CHECKLIST.

2. Does the facility currently have a RCRA Part B Operating Permit or a post-closure permit?

   ☐ Yes ☐ No

3. Did the facility file a Part A Permit Application? ☐ Yes ☐ No

   If yes,

   - Does the facility currently have interim RCRA status? ☐ Yes ☐ No
   - Did the facility convert its status from TSF to "Generator" or "Non-handler"?

     ☐ Yes ☐ No

   If no,

   - Is the facility a "Non- or Late Filer"? ☐ Yes ☐ No

IF ANSWERS TO ALL QUESTIONS IN PARTS 2 AND 3 ARE "NO," THE SITE IS NOT ELIGIBLE FOR RCRA RESPONSE. IF THE ANSWER TO ANY QUESTION IS "YES," DISCUSS THE SITE WITH YOUR EPA SITE ASSESSMENT CONTACT.

2.2.2 CERCLA Petroleum Exclusion

CERCLA authorized Federal response to releases or threatened releases of "hazardous substances" and "pollutants and contaminants." CERCLA excludes "petroleum, including crude oil or any fraction thereof" from the definition of these terms. However, CERCLA does not define the specific types of petroleum products excluded.